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Volume XIX Number 5

SOAP and SANITARY CHEMICALS

Reg. U. S. Pat. Office

MAY
1943

SANITARY Products Section, which forms a part of every issue of SOAP, begins on page 71.

Contents

- Editorials 19
- Soap Perfuming 21
- Tall Oil in Soap..... 24
  By R. Hastings, R. Pollak and J. M. Wafer
- The Trend in Dentifrices..... 28
- The Way It Looks in Washington..... 30
  By Jay A. Bonwit
- Small Plant Glycerin Recovery..... 57
- Oil of Cedar Wood..... 94
  By Dr. Ernest Guenther
- Insecticide Supply Outlook..... 98
  By P. H. Groggins
- War Time Problems of the Pest Control Operator. 101
- Insecticidal Possibilities in the Yam Bean Seed.. 105
- Bids and Awards..... 45
- New Trademarks 47
- Raw Material Markets..... 51
- Raw Material Prices..... 53
- Products and Processes..... 65
- New Patents 67
- New Equipment 69
- Classified Advertising 121
- Advertisers' Index 125

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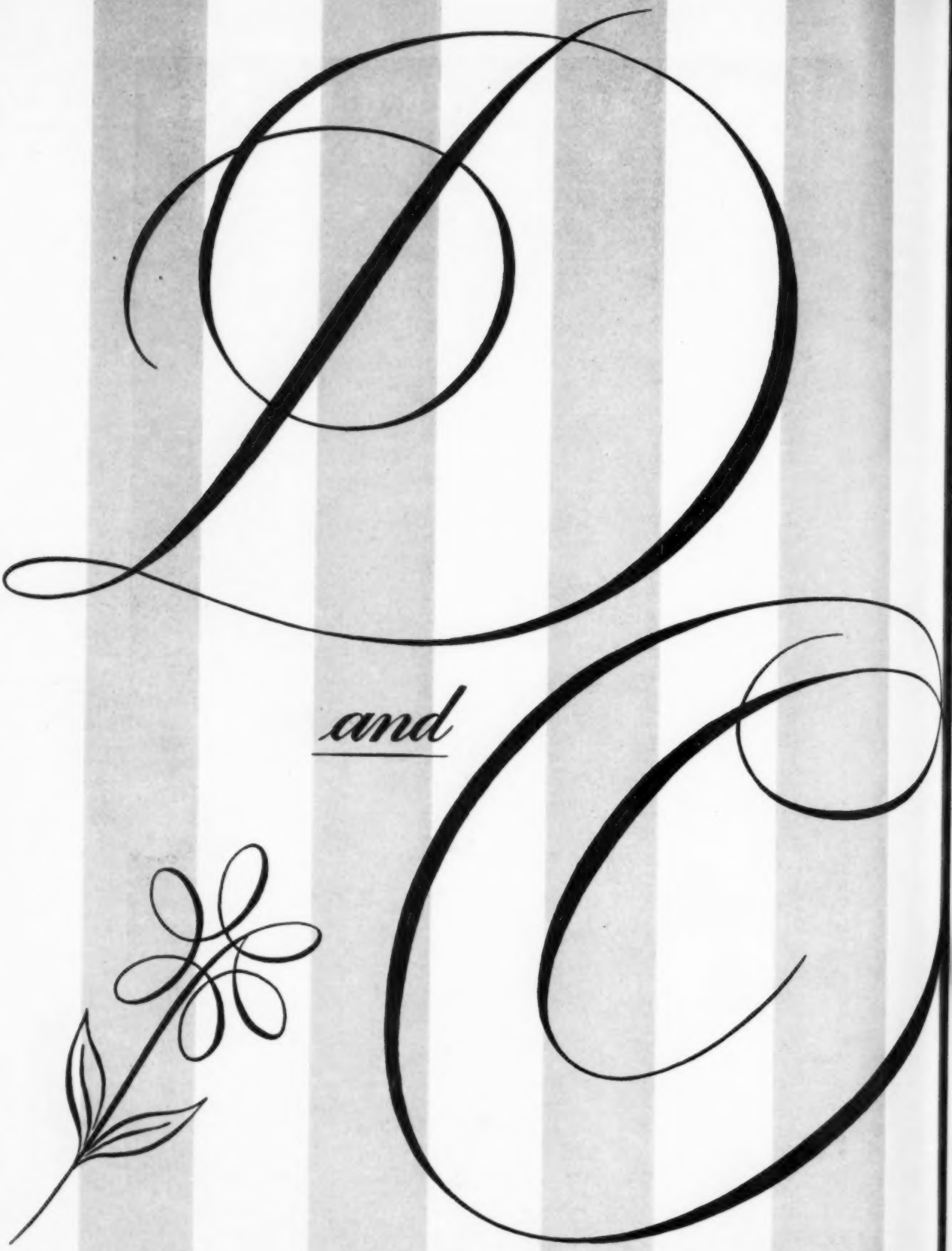

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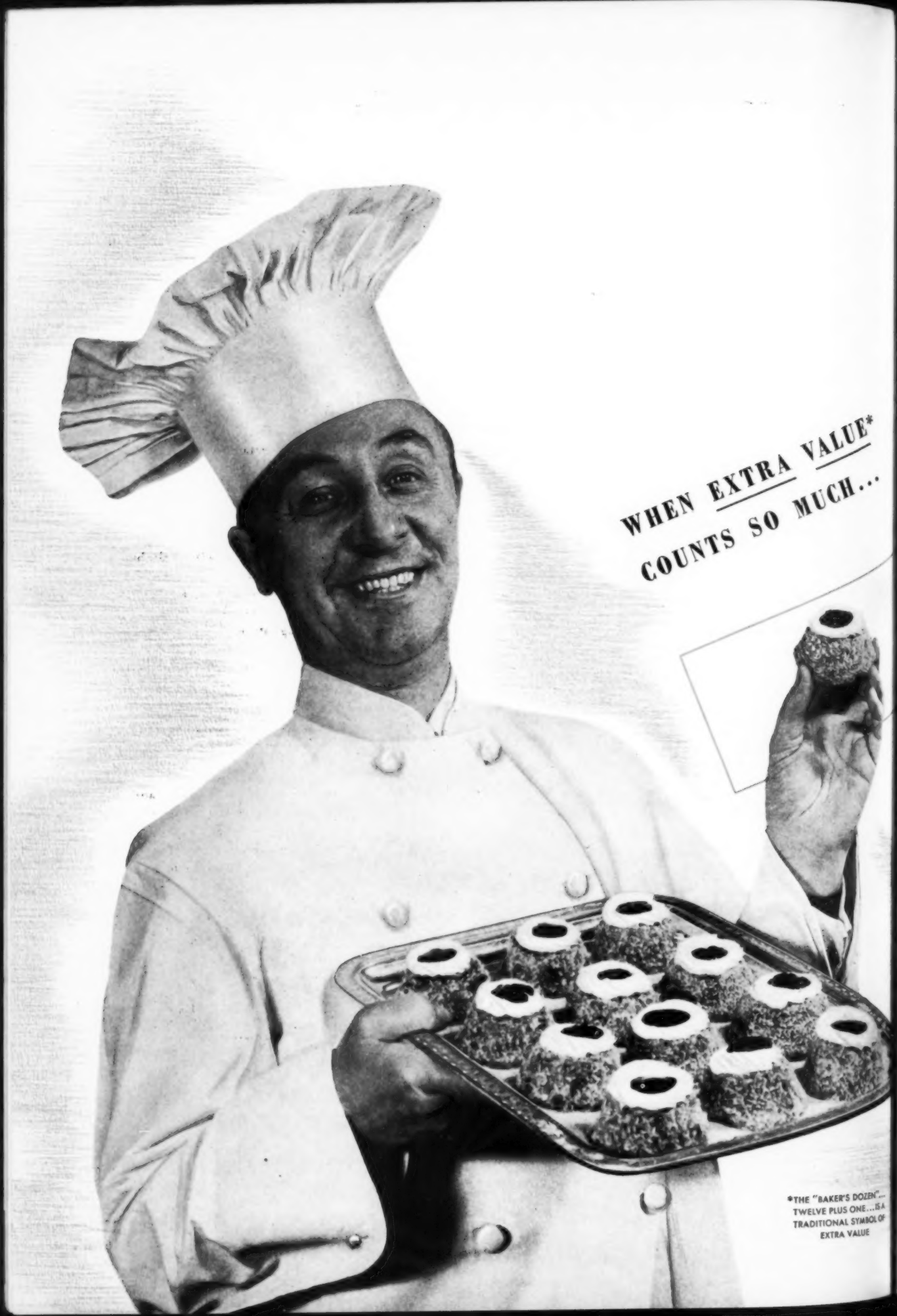
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*THE "BAKER'S DOZEN"... TWELVE PLUS ONE... IS A TRADITIONAL SYMBOL OF EXTRA VALUE

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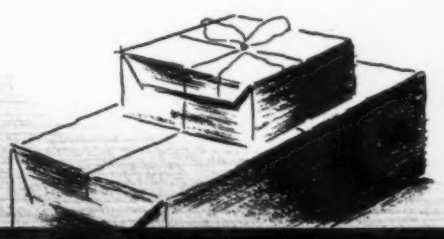

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The future is shaping up fast.

It takes no satin turban or fortune-teller's cards to see the coming events in tomorrow's crystal. They're with us already . . . more clearly defined with each new technological development, each new advance on the industrial front.

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Wyandotte men . . . with a mind ahead of the job at hand . . . are ready to help you take up the challenge that peace will bring. Experience in furnishing basic chemicals to half a hundred industries has gained them a bird's-eye view of business trends, an all-over picture which fits the pieces together, points up those destined to affect your plans.

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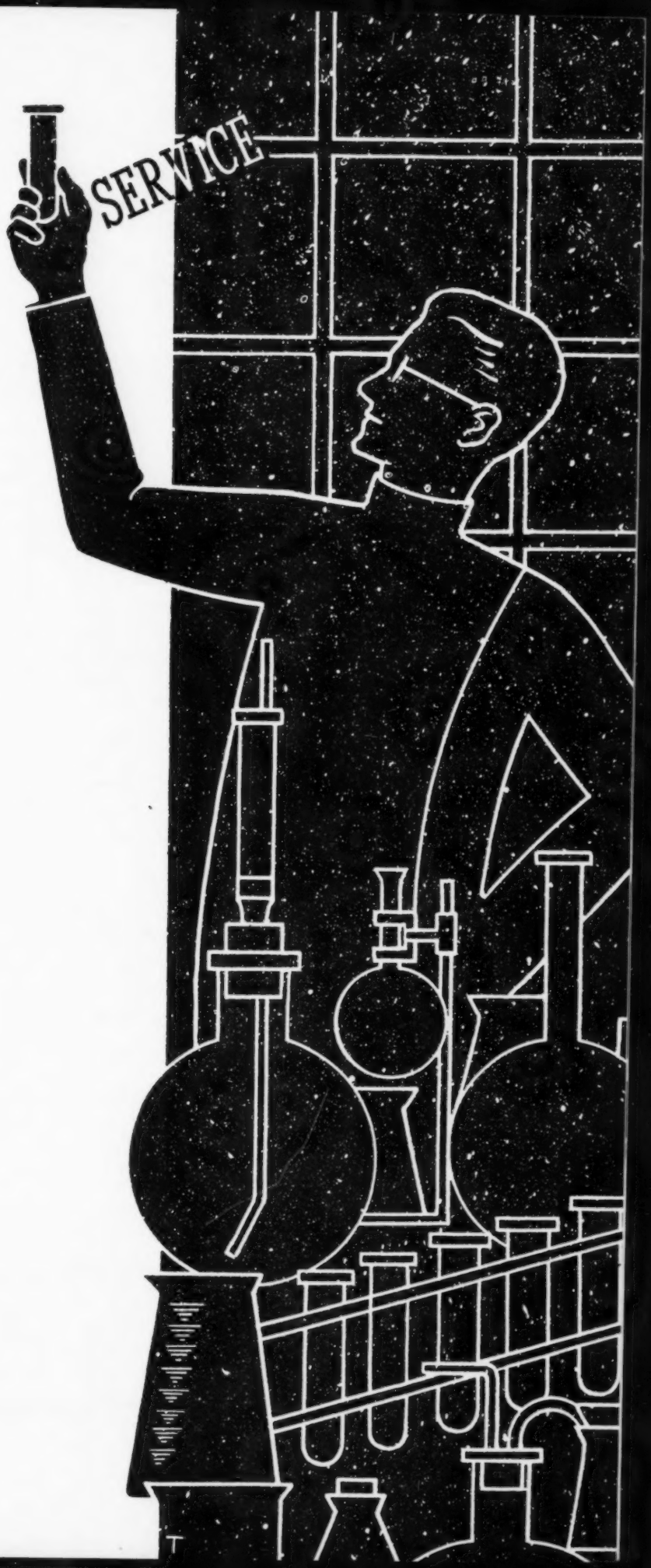

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ENFORCED changes in soap formulas over the past year have multiplied the problems of manufacturers. But no matter what your formulas may be today, or what problems you face in lather, color and general appearance, when it comes to soap pressing, the JONES Toggle-Motion PRESS can do it better, — can produce a cake of finished appearance and of proper consistency.

Where formula changes may induce the finished bar of soap to crack or crumble in use, the slow squeeze of the JONES Toggle-Motion PRESS will minimize this by giving the soap stock time to coalesce into a solid mass, which is not possible where the press action imparts a sudden blow.

Type K Toggle Operated Toilet Soap Press

Insofar as consistency and appearance are concerned, JONES Toggle-Motion PRESSES are aiding soap manufacturers to overcome present difficulties growing out of raw material shortages.

The Standardized CONSTANT MOTION CARTONER packages bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds, and inserts direction sheets and corrugated board liners with the loads.

R. A. JONES & COMPANY, INC.

P. O. BOX 485 CINCINNATI, OHIO

AS THE EDITOR SEES IT

APPROXIMATELY six months ago, we suggested to the then W.P.B. soap and glycerine unit in Washington that a set of official answers be prepared to many typical questions which soap makers were asking as to the exact meaning and interpretation of the host of government regulations dealing with the use of fats and oils, manufacture of soaps, recovery and sale of glycerine, etc. Subsequently, some fifty questions were presented to the soap and glycerine unit and they agreed to supply the answers which could be broadcast for the guidance of the industry.

For one reason or another, these answers are still not available. First, a report reached us that the answers were ready, but had not yet been "cleared" by the WPB legal staff. Next came the report that with the transfer of the soap unit to the Department of Agriculture, the approval of that department's legal staff would be required before the answers could be released. The next detour resulted from decision of the FDA to reissue in revised form the various orders governing the soap industry in its use of fats, recovery of glycerine, etc. The perfectly valid excuse was given that there was not much point in presenting answers to questions which would themselves be changed with the issuance of the new orders.

The current status of things is that even though the new orders were issued some weeks back, the answers to the soap makers' questions are still conspicuous by their absence. We understand that the lawyers are again in conference on the subject and in another month or so may have the answers ready. Meanwhile, what, may we ask is the average soaper to do to assure his full compliance with the letter of the many complicated and confusing controls under which he is operating? One solution might be to shut down pending the official interpretations, but it is hardly a course that good sense would recommend. Some of the bigger soap makers have found an "out" for themselves by maintaining watchers in Washington to keep track of new government edicts, and perhaps even to interpret them before they are quite dry from the press. Most soapers, unfortunately, are not in the position of being able to afford special Washington representatives, and like the late Will Rogers, have to depend for their information on "what they read in the papers."

Naturally, we are anxious to carry this important information to the rank and file of the soap industry as soon as possible. The numerous questions submitted to us by puzzled soapers indicate that until these answers are made officially available, many plants are operating in the dark and probably all unconsciously violating some feature of the control regulations.

THE present plight of the buyer of bulk and private brand soaps is none too happy. Among a number of recent requests for advice, we quote from a letter just received: "Our supplier of soap has advised us that following the completion of our present orders, he will no longer be able to care for our requirements. This, you can readily appreciate, places us in a most uncomfortable position. The reason given is

that our supplier has been forced to 'ration' 'old' customers to 80 per cent of last year's purchases. This we can understand, but it does seem strange that a month ago, they assured us of supplies of liquid hand soaps. This is especially unfortunate in view of the fact that we have just issued a new catalog in which seven pages are devoted to soaps. What can you suggest?"

Genuinely helpful suggestions under present circumstances are difficult to make because the channels of relief are so few. If an established source of supply decides to quit selling, either because he has to or wants his soap for other purposes, there is not much the buyer can do. It is a certainty that no other soap maker wants to take on new accounts now. In fact, wholesale dropping of accounts has been the tendency of late. Soap makers simply cannot buy the raw material to make enough soap. Their positions likewise are not to be envied. But, we wonder if they appreciate fully the hardship involved when they cut off an established account completely. Could not the reduced tonnage of available soap be spread perhaps a little thinner so that all might get at least a small proportion of their normal purchases? The list of buyers cut off from soap supplies increases daily. It is conceivable that their growing protests may eventually bring some form of soap allocation even more distasteful than the present situation.

THOSE soap makers who sold their stocks of coconut and other high lauric acid oils to the Commodity Credit Corporation some months back after the coconut oil freeze, can now apply for permission to repurchase these oils from the C.C.C. A notice from the Food Distribution Administration of the Department of Agriculture dated April 22 states that soapers shall have until May 15 to apply to the F.D.A. to buy back these oils which may be used in soap manufacture, subject, of course, to the usual restrictions on high lauric acid oils.

What are the reasons behind this move? Government agencies seldom explain their reasons, but speculation in the trade gives three likely explanations. First, it is believed that tank and warehouse facilities for oil storage are full to overflowing. Second, coconut oil supplies are somewhat improved and the outlook for shipments from Africa continues to brighten. Third, coconut and palm kernel in storage are deteriorating, free fatty acid content going up and glycerine yield down. Some oils which showed five per cent free fatty acid when frozen are now up to fifteen per cent and higher, reports state.

Soapers who did not sell their oil to the C.C.C. are not eligible to apply for supplies of coconut oil now. It is believed that few of the larger soapers sold their oil. Those who are eligible, however, should make certain that their applications reach F.D.A. by May 15 which is the deadline.

OPA which we had always figured to be literally teeming with experts well versed in the operation of economic laws, seems recently to have stubbed its toe on the old law of supply and demand. Blundering into the tallow market with one of these hastily improvised rulings, OPA boosted tallow price ceilings on sales to a limited group of buyers. Then, like the youngster who steps back in amazement at the results which follow his throwing a match into a box of firecrackers, OPA indicated great surprise that its efforts had succeeded in thoroughly disrupting the tallow market and making it impossible for soap makers to buy the supplies which are essential for continued glycerine production. How did they think this maneuver would work out? We, or any soaper, or even the corner butcher for that matter probably could have warned them.

SOAP PERFUMING...

Improved situation in perfuming materials complicated by fat quality and formula changes in toilet soap base

COMPARED to a year ago, the supply situation in perfuming materials today shows much improvement. Where a year ago, there were short supplies of almost all materials, and until price ceilings were invoked on May 11, 1942, steadily rising prices, the present market finds stocks larger, prices generally lower, and the buyer no longer worrying where he can obtain supplies. Of course, some oils where primary sources are enemy-controlled, are still practically off the American market,—bergamot, lavender flowers, geranium, Java citronella, camphor oils and others,—but there are ample supplies of good synthetic aromatic chemicals and substitute oils. South American oils, particularly from Brazil, and the ingenuity of American chemists and perfumers have been most helpful in filling the gap.

Soapers who stocked up a year ago in the fear that sources of perfuming materials might dry up completely, have had an opportunity to work off a substantial portion of those oils and aromatics. They are again coming into the market and can now purchase under much better conditions and mostly at lower prices than last year. In fact, based on reports of higher shipment prices on some oils from Spain, South America, the South Pacific, and other sources still open, the spot American market today is the best place to buy, and would seem to present an opportunity for soapers to stock up again.

Although certain intermediate chemicals are still on the list of critical materials and hamper the manufacture of some synthetic aromatic chemical products, better supplies of a few natural oils have enabled manufacturers to increase their production of aromatic isolates. Linaloe oil shipped by rail from Mexico is finding use in place of scarce bois de rose for which the Brazilian Government will not issue export permits inasmuch as the production of this latter oil is reported to interfere with rubber output there. From Mexican linaloe comes a more plentiful supply of linalyl acetate used in imitation bergamots and lavenders. But from Brazil, comes a new supply of sassafras oil,—not U.S.P., but satisfactory for

soap,—containing a good content of safrol. This has meant an increased supply of heliotropine. South American lemongrass is now in ample supply in the United States, but demand is slow. Ionones from lemongrass have not been in very active demand for use in toilet soap of late and the supply has more or less backed up on the lemongrass market. And thus it goes,—some products are in better supply,—linalyl acetate, linalool, anisic aldehyde, aubepine, safrol, artificial sassafras, terpineol, heliotropine, the ionones, and others,—while some are still scarce.

Before looking into the complications in perfuming which toilet soap manufacturers are facing today as a result of changed conditions in the fats, oils and other raw materials used, a brief examination of the market and supply situation in some of the more important soap perfuming oils reveals several interesting situations. Italian bergamot oil is just about out of the picture with small residual stocks in a few hands still remaining and numerous good imitations supplying the demand. Some Brazilian bergamot oil of a character similar to the Italian is now available at about $10 per pound. Boise de rose is scarce, as mentioned above, and being replaced by good stocks of Mexican linaloe. Camphor oils are off the market, as naturally no crude oil is coming from Japan. Supplies of cananga are still to be had in fair volume. Cassia stocks are about out, but of little interest to soapers anyway, especially with synthetic cinnamic aldehyde available. There is a plentiful supply of American cedarwood oil at fairly low prices. Clove oil is still available in ample supply and the price at $1.75 stays comparatively low.

Citronella, always an important soap oil, has shown an increase in supply lately as larger shipments have arrived from Ceylon, and reports indicate that still larger quantities have been bought here for shipment. The current market which ranges from $1.10 to $1.25, is not so high when conditions are considered. As for Java citronella, some small lots are still in the hands of local dealers throughout the United States, but for all practical soap perfuming purposes, the supply is shut off. This means as well that the outlook is not too bright for geraniol, citronellol, hydroxycitronellal and other synthetic, perfuming materials made from java citronella.

Spanish oils reflect the attempts of the government there to boost prices for all goods shipped out of that country. Ample stocks of spike lavender are available in the United States. Right at the moment, the price is high, around $4, but still higher for shipment,—and the demand here is poor. American stocks of rosemary oil are short and prospects for shipment from Spain are not bright. Good thyme oil is also in limited supply on the American market.

Two of the oils on which toilet soapers have depended for so many years, lavender and geranium, are both scarce on the American market and prices still prohibitive. Outside of a few odd lots, lavender flower oil is not available and is not likely to be available for some time. For this oil as well as geranium, imitations are doing a good job of filling the demand. Geranium oil is still also very short here, but there are hopes that Madagascar may be opened up and supplies will soon come from there. Belief that Algerian oil will soon come out of Africa appears still to be mostly a hope. East Indian geranium or Turkish geranium or palma rosa, or whatever it may be called, is now in fairly good supply on the American market.

Petitgrain is quite plentiful in South America and can be brought in. It is a question of shipping space. Oil patchouli is in fair supply on the American market at present, even though it comes from Java and no shipments have arrived for a year or more. The market range here is about $7.50 to $8.00. True pine needle oil is not available here, but there is a plentiful supply of synthetic isobornyl acetate of fine quality to be had at low prices, and the pine needle oil is not much missed. There are still stocks of vetivert to be had on the American market for those buyers who are willing to pay $25 to $28 per pound. Also, plenty of ylang ylang is reported around, but at prices ranging from $12 to $14. Oil of guaiacwood is reported in good spot supply.

Sandalwood oil is in plentiful supply in the U. S. The demand for this oil is reported to have dropped off to little or nothing, and the current price of $5.75 may in some degree reflect this. Even under war conditions, this oil is selling at a price level with or below pre-war markets. The answer appears to be that for medicinal uses, the sulfa drugs seem to have just about knocked sandalwood out of the picture, and it has found steadily declining use in perfuming in recent years.

THE supply situation in essential oils and aromatic chemicals which was one of the chief worries of soap perfumers a year ago, has improved, but other troubles have come to take its place. New problems face the soap manufacturer today when it comes to perfuming toilet soaps. The soap stock from which toilet soaps are milled is on the whole not as good as it was a year ago,—and if the present trend in fatty raw materials continues, is liable to become worse as time goes on. The job which the soap perfumer has to accomplish when he works with a fine white chip made from high-grade tallow and coconut oil is one thing; when he works with a lower grade soap base, containing oils not heretofore used in good toilet soaps, where any tendency to rancidity or discoloration is heightened, he may run into new difficulties.

In the days immediately preceding the war, the art of soap perfuming had reached a stage of development that had reduced to a minimum difficulties arising from the perfumes. The fats used in soap were constantly being improved and this plus the skillful use of preservatives had established a high standard of soap base with which the perfumer had to work. The meaning of the term, "white soap," had become changed and soapers were producing a blue-white glossy cake of soap better than anything which had been hoped for a few years previously. Free lathering, lasting fragrance, firmness under constant use, and non-darkening were generally common properties of good toilet soaps.

With the coming of the war, came the shortage of many widely used chemicals. The curtailment of stannous chloride (tin crystals), used in considerable quantities by some manufacturers as a bleach and preservative in the production of white soaps, was only one chemical hit by shortages. But it posed a problem to those soap perfumers whose countless experiments in standardization and duplication of odors had been built with a background of soap bases depending upon this chemical. Hard on the heels of chemical shortages and frozen coconut and palm oils came a dwindling in the supply of other prime soap fats. Government restrictions followed, soon prohibiting the use of edible fats in soap,—and edible fats included just about everything except inedible tallow and greases, and linseed oil.

Constantly changing soap formulas are the inevitable outgrowth of these conditions,—and the soap perfumer who has built up a record of innumerable case histories in the form of aged soap samples over the past several years finds today that the information which they give him will be of little or no value under new and changed conditions. The perfumer has been placed in the position of being forced to make formula changes without knowing what the ultimate effects will be. As both perfumers and soap chemists know, the action of perfume on the soap, or of the soap on the perfume, if they stray from the field of definitely established conditions, is often unpredictable. Even in the case of natural oils which have been used for many years as soap perfumes, the effects upon aging will many times astound and puzzle the perfumer. In spite of advances in fat chemistry and in the chemistry of aromatic chemicals and essential oils, soap perfuming remains an art.

Faced with shortages of fats heretofore used in producing toilet soap base, soapers appear to take two views of the situation. Some practical soap men are not too pessimistic. They argue that if the grade of fats available will not permit the manufacture of white soaps of the type to which they have become accustomed in recent years, they must of necessity put out soaps of cream hue, or tan or tinted the usual shades of colored soap. Some soap makers who have used a small percentage of rosin or plan to use it, state that outside of darkening the color of the soap, the other effects are beneficial. Rosin in toilet soap has been common in Europe for years, they point out. Rosin is believed to act as a fixative for the perfume and prolong its lasting qualities. It is likewise held to have a beneficial effect in retarding the development of rancidity, especially if a larger proportion of unsaturated oils or their fatty acids are used to overcome the growing scarcity of good tallow. They maintain that these soaps will tend to darken anyway in time and that the addition of rosin is of no consequence on this score.

WHERE a larger percentage of off-white or colored soaps are produced, the optimists maintain, the range of choice in perfuming materials is widened appreciably. The following aromatics, for example, and compounds containing them, which have not been used in white soaps because of discoloration, would become available: indol, methyl anthranilate and dimethyl anthranilate, heliotropine crystals, aubepine, vanillin, benzaldehyde, bromstyrol, citral, methyl salicylate, eugenol, methyl eugenol and methyl isoeugenol. In the case of indol and methyl anthranilate, for example, they are used mostly only to the extent of one per cent or less of the perfume formula. This percentage in white soaps where whiteners such as titanium dioxide or zinc oxide are used is not too bad, but without the whitener, they should not be used.

The problem of rancidity may take on greater proportions as time goes on and further enforced changes are made in the soap base used for milled toilet soaps. Just where the perfume does or can fit into this picture is reflected in some rather diverse opinions. One or two old-time soapers maintain that if rancidity is going to develop, it *will* develop and continue to develop, and that there is nothing which can be done to stop it. They hold that by increasing the perfume, the rancid odor will not be covered and that the problem must be solved in the kettle and not in the mill. However, there are others, and they appear to be a majority, who feel that if there are chances that a toilet soap will develop off-odors due to the type or quality of the fat or oil used, that an increase or change in the perfume will help to cover such odors if and when they may develop and possibly avoid later rejection of the soap. The opinion appears to be held by some that as the quality of the soap base goes down, the proportion of perfume should go up within range of reasonable costs.

Whether any perfuming material will really aid in retarding the development of rancidity is also a debated question. For years, some soapers have believed that the phenol type oils such as spike, thyme, and other Spanish oils, and the pines, and terpineol, benzoates, and others, both oils and aromatics, have a marked preservative effect. But germicidal powers and chemical effect are two different things. Usually, compounds of a strong reducing character are considered useful to retard rancidity and this may be the case with certain constituents of these oils. At any rate, they have been used with wide success in soap perfuming for many years which in itself is probably their strongest recommendation.

In closing, it can be pointed out that the direction of present developments in soap manufacture indicates that the soaper must rely more heavily than ever on the perfumer if troubles are to be avoided,—and then, there is no assurance that the problems posed by new conditions can be solved quickly even by the most skillful perfumer. Old conditions and standards,—for the duration at least,—are likely to go by the board and readjustment to new conditions cannot be completed overnight.

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A cleaning preparation consists of a mixture of diatomaceous earth, magnesium carbonate, soft soap, anhydrous soda ash, and sugar, with or without the addition of water. L. J. Howlett, W. H. Howlett and R. H. Warneford. Canadian Patent No. 411,670.

TALL OIL

By R. Hastings,

A. Pollak

and J. M. Wafer

Industrial Chemical Sales Division
West Virginia Pulp & Paper Co.

Pine wood stacked waiting to go to the chippers at the paper mill where its content of fatty and rosin acids are separated out as tall oil.

AS the largest consumer of fats, oils, and fatty acids, the soap industry is vitally concerned with the critical shortages of these supplies. Tall oil is a source of fatty acids estimated potentially at 100,000 tons annually (15) which is already helping to alleviate the fat shortage. Much emphasis has been placed on increasing our supply of fats by the collection of waste fat from housewives and restaurants. This potential source is difficult to collect and to date, the average of 2,000 tons monthly collected is far short of expectations. About 35,000 tons of tall oil are now being produced annually, and with comparatively little effort the entire potential supply could be made available. The Waste Fat Salvage Committee is planning a new campaign aimed at the collection of 100,000 tons of waste fat annually. The soap and glycerine industries have subscribed $400,000 for this work. The recovery of the 65,000 tons of tall oil, now wasted, should be included in this salvage campaign.

Certain species of pine wood contain a surprisingly high ratio of fatty acids in proportion to their rosin content. The proportion of fatty to rosin acids depends on the species and age of the wood, on the prevailing climate, on the season of the year and on many other factors. It is from these fatty and rosin acids that the tall oil produced in the alkaline paper pulp industry is derived.

In alkaline pulping processes, wood chips from one-half to one inch long and one-sixteenth to one-eighth inch thick, are heated under pressure with alkaline cooking liquors. In this process about one-half of the wood dissolves in the liquor, forming what is commonly known in the paper industry as black liquor. The undissolved portion of the wood disintegrates into pulp, which after washing is converted to paper. The fatty and rosin acids of the pine wood are converted to soaps by the caustic soda present in the cooking liquor and thus become soluble, forming a part of the black liquor.

The economic operation of a paper mill demands that the inorganic chemicals contained in black liquor be reclaimed for subsequent use on fresh wood chips. Evaporation of the black liquor is practiced as a first step in the recovery cycle. As the concentration of the chemicals increases, the soap becomes insoluble in the black liquor and floats to the surface, where it is readily removed by skimming. The soap, known as crude tall oil skimmings, is usually removed by pulp mills since the evaporator efficiency can thereby be increased. At the present time, many mills use this substance as a fuel or simply allow the crude tall oil skimmings to be wasted by running them to the sewer. In the face of the war emergency with its attendant scarcity of fats, such waste

IN SOAP...

will probably not be tolerated much longer, particularly since, with comparatively little effort, these skimmings could be made available.

The crude tall oil skimmings as removed from black liquor are associated with about 35 per cent of water, and an appreciable amount of impurities due to the occluded black liquor. While the crude skimmings are finding some usefulness in soap making, most manufacturers prefer to use the water-free, lower freight cost, and purer tall oil obtained by acidifying the skimmings with a mineral acid.

Eight pulp mills in the United States now acidify crude tall oil skimmings to produce crude tall oil, amply demonstrating that this process is commercially feasible. The acidification is a comparatively simple process, but when carried out on a large scale requires considerable experience and specially trained personnel. Because of this, and to conserve critical materials, it is likely that these eight producers with perhaps several others could muster enough operating capacity to handle all the skimmings potentially available, acting as regional converters for the duration of the war. It should be possible for the existing producers to carry the extra load by operating on a 24-hour day and where necessary, minor expansions, requiring a relatively small amount of critical materials, could be made.

Composition of Tall Oil

CRUDE tall oil is a clear brown oil containing amounts of three classes of compounds: 1. fatty acids; 2. rosin acids; 3. non-acids such as sterols, higher alcohols, and other unsaponifiable matter. The individual identity of the component parts of each group has not been clearly established. The best work indicates that the fatty acids are all unsaturated 18 carbon monobasic acids, some oleic, but principally, linoleic acid.

That the rosin acids are not all abietic acid, the principal component of rosin, is clearly demonstrated by the fact that the rosin acids isolated from tall oil are not all solids at room temperatures. Abietic acid is a solid melting at about 170°C. (340°F.).

Modern tall oil plant where the crude skimmings from alkaline digestion of pine wood are acidified to crude tall oil and vacuum distilled to produce refined tall oil.

ABOUT 35,000 tons of tall oil a by-product of paper manufacture, out of a potential total of 100,000 tons were produced in the U.S. in 1942. In the present fat shortage, tall oil should find wider use in soap manufacture, being satisfactory for paste and liquid soaps, soap powders and up to 25 per cent in hard soaps.

The non-acids in tall oil seldom exceed 10 per cent of the total, and while attempts to identify the individual members of this class have not been lacking, few compounds have been positively identified. Reports from the literature indicate that over 20 plant sterols have been found, but in most cases, the tests were generic rather than specific. However, at least one sterol has been isolated in quantity from tall oil (5) (13).

Many attempts have been made at predicting the properties of tall oil, reasoning from the characteristics of the three classes of components. One reference (3) even goes so far as to call a mixture of fatty acids and rosin "synthetic tall oil." Such comparisons are often misleading, the actual properties being very different from those anticipated. For example, many in the soap industry have reasoned that the non-acids of tall oil like other unsaponifiable matter would settle out of dilute soap solutions. Actually nothing separates from tall oil soap solutions no matter how dilute.

From what has been said relative to the proportions of fatty and rosin acids in pine wood, it is not surprising that wide variations are encountered in the relative amounts of the three classes of compounds in tall oil. This is illustrated in Table 1, compiled from hundreds of analyses of commercial deliveries of crude tall oil from fifteen different sources.

TABLE 1

Analyses of Crude Tall Oil From Different Sources

Fatty Acids, Per Cent		*Rosin Acids, Per Cent*		*Non-Acids, Per Cent*	
High	Low	High	Low	High	Low
56	30	64	34	22	5.5

Obviously, with such wide variations some tall oils will not be saleable except in special cases. Fortunately the tall oil obtained from any one source does not vary widely, and individual producers are able to sell tall oil having a limited range of analyses. For example, the range of analyses for the largest American producer of crude is advertised (16) to be:

TABLE 2

Crude Tall Oil
Range of Analyses

PHYSICAL DATA	
Specific Gravity, 60°F.-60°F.	0.97-0.99
Pour Point, not over, °F.	45
Viscosity—Saybolt Universal at 210°F.—Seconds	95-120
Flash Point, °F.	350-370
Fire Point, °F.	410-430
Color	Brown
Moisture, less than, %	0.4
CHEMICAL DATA	
Acid Number	160-170
Saponification Number	165-175
Rosin Acids Number	80- 90
Iodine Number (Wijs)	140-150
Ash, less than, %	0.4
ANALYSIS	
Fatty Acids, %	45-50
Rosin Acids, % calc. as abietic	42-48
Sterols, Higher Alcohols, etc., %	6-9

Crude tall oil can be refined by various methods to give a light-colored oil possessing a mild odor. Of the refining processes proposed to date, vacuum distillation is the one most generally practiced on a commercial scale. While the vacuum distillation of tall oil is not difficult, it is a much more complicated operation than the conversion of skimmings to crude tall oil. At present there are only a few tall oil refineries in operation, and their production is limited.

While efforts at increasing the output of refined tall oil are in progress, users of tall oil should carefully weigh their need for this higher cost material. Users seldom demonstrate any difference in the chemical properties between crude and refined tall oils. The difference is chiefly one of color and of odor, and often as will be shown in some of the uses reviewed below, this is not so important as it first seems.

The refined tall oil sold by the largest producer in the United States has the following range of analyses (16).

TABLE 3

Refined Tall Oil
Range of Analyses

PHYSICAL DATA	
Specific Gravity 60°F.-60°F.	0.96-0.98
Viscosity—Saybolt Universal at 210°F.—Seconds	50- 70
Flash Point, °F.	350-380
Fire Point, °F.	410-430
Color—Lovibond using half column	
Yellow—not more than	70
Red—not more than	40
Moisture, less than, %	0.1
CHEMICAL DATA	
Acid Number	170-180
Saponification Number	170-185
Rosin Acids Number	63- 71
Ash, less than, %	0.1
ANALYSIS	
Fatty Acids, %	55-60
Rosin Acids, % calc. as abietic	34-38
Sterols, Higher Alcohols, etc., %	6-10

Tall Oil for Soap

IN European countries, tall oil has been produced since the turn of the century and its use in soaps and soap products is well known. Numerous references in European literature report that tall oil soaps have excellent foaming, emulsifying, and detergent properties (1) (4) (6). These results have been substantiated in this country by the steadily increasing demand for tall oil by American soap manufacturers.

Tall oil has much the same properties as red oil and other fatty acids, and for soap making has certain advantages over the fats usually used. Manufacturers of soap products hampered by limited plant capacities will appreciate the fact that tall oil saponifies rapidly when alkalies are added and does not require boiling or salting out. It is also unnecessary to use excess alkali to make the saponification

complete. Because of the rapid saponification, tests for excess alkali or fatty acid can be made soon after mixing without danger of further change due to slow and delayed reactions. Glycerine does not form as a by-product, and therefore, the entire fat content goes into the formation of soap. Mild alkalies as triethanolamine which do not react with whole fats, can be used with tall oil to form specialty soaps.

Liquid and Paste Soaps

TALL oil, unblended with other fats, forms liquid or paste soaps depending on the moisture content. Tall oil soap solutions are less viscous than those prepared from most other fats or fatty acids. Soaps of fluid consistency may be prepared with the soap content running as high as 45 per cent of the solution. At room temperatures liquid soaps of tall oil may be stored indefinitely without gelling. These soaps are very soluble even in cold water. The pH in dilute solutions does not differ from that of other soaps.

To prepare a liquid soda or potash soap of tall oil the following typical procedure is recommended:

1. Heat the tall oil with agitation in a tank or other suitable container to 150-175° F. until any crystals present have dissolved. This operation will require only 5 to 10 minutes heating after reaching 150° F.
2. For each 1,000 pounds of tall oil used, weigh out 125 pounds of caustic soda or 175 pounds of caustic potash, 100 per cent basis.
3. Dissolve the caustic soda or potash in the total amount of water used. The amount of water used will depend on the desired soap content of the finished soap solution.
4. Slowly add the alkali solution to the tall oil with agitation.
5. Continue the agitation until the mixture becomes uniform.

By using the above proportions of tall oil and alkali, the soap formed will not contain appreciable amounts of free alkali. If desired, soap builders and excess alkali may be added. The amount used is best determined by trial, but in general will not differ materially from the amounts of excess alkali and builders used with other soaps.

The following instructions apply generally to the preparation of high concentration paste soaps from tall oil.

1. Heat the tall oil to about 175° F. until any crystals have dissolved.
2. Heat requisite amount of 30 per cent caustic solution (see step 2 under preparation of liquid soaps) to 175° F. Either sodium or potassium hydroxide or their mixtures may be used.
3. Slowly pour the hot caustic solution into the hot tall oil with slow agitation. Mechanical agitators should operate at slow speeds and should be well submerged to prevent entrainment of air.
4. Add enough 175° water to bring the soap to the desired water content. If no water is added, using caustic soda an 80 per cent soap results, using caustic potash, a 74 per cent soap.
5. Continue agitation until uniform.

In this country, liquid and paste soaps of tall oil have proved effective for scouring wool, rayon, and cotton linters, for the degumming of silk and depitching of rayon pulps. In European literature Henk (7) states "Tall oil soap can be used for the most varied textile requirements, including scouring raw wool, washing white woolens, washing cotton, dyeing, desizing, degumming of silk."

It is reported (14) that in Finland an important producer of tall oil soap prepares a paste soap by saponification with 35° Baume caustic soda. It is claimed that the tall oil soap is very good for removing soil containing mineral oil, tar, and soot. The paste soap is also packed in tubes and used as a hand soap. Hellstrom (6) reports that in Finland the amount of tall oil soap consumed is 25 per cent of the cleaning product consumption.

Liquid tall oil soaps are giving excellent results in laundries, especially for those specializing in the washing of overalls, wiping cloths, etc. In recent years, the comparatively high cost of soap has induced some commercial laundries to reduce the amount of soap used or to abandon its use in favor of inorganic compounds. Since tall oil is selling well below the prices of other fats, laundries have here a source of low cost soap. In laundries, tall oil soap is made up in one of two ways: 1. By adding tall oil directly to the wash wheel and then adding caustic soda; 2. By mixing tall oil and caustic soda in a tank or drum and using the resulting soap solution.

Based on actual experience in many laundries in this country and substantiated by experimental laundering tests in Europe (10), tall oil soap leaves no residual odor in washed fabrics. The reference cited states, "It has been claimed in the literature that soap, cooked with crude tall oil, used in laundering imparts a disagreeable odor to the fabric. In the experimental launderings marked by higher lather, we were unable to detect this phenomenon; sample fabrics after laundering had no odor."

Tall Oil in Hard Soaps

HARD soaps cannot be prepared from tall oil alone by any graining process. Hard soaps can be obtained however, by drying processes or by adding soap builders such as soda ash. For example, a German patent (7) claims a process for producing a hard soap from tall oil soap paste in which the tall oil soap paste is kneaded by known means with 2 to 15 per cent of calcined soda. In carrying out this invention, 6,500 kg. of tall oil were neutralized with 33° Baume caustic soda, whereby 10,000 kg. of soap paste was obtained. Eight hundred kg. of calcined soda ash were added and kneaded into the soap. The kneaded mass was sent over a cooling roll from which it was transferred to a packaging machine. In this machine, the mass was kneaded once more and pressed into cakes of about one-half kg. The soap cakes coming out of the machine took on a hard firm form after a short time.

Tall oil mixed with other fats is used in the preparation of hard soaps. There are a number of articles (2), (4), (9), (10), (11), (12), (14), which describe these hard soaps containing tall oil. In these references up to 25 per cent of tall oil is used in the soap stock. Above this amount the

(*Turn to Page 70*)

War time DENTIFRICE MARKET

ALTHOUGH less obvious than the packaging changes forced by the war, other changes of no less moment have been taking place in the dentifrice field over the course of the past year or two. A definite trend is reported for instance in the swing of public favor away from tooth paste and toward tooth powders. Second, there has been a greater demand over recent months for dentifrices than ever before. One estimate says seven per cent more tooth paste, powder, liquids, etc., are being sold this year than a year ago. Third, the make-up of dentifrices now being offered is being changed, and if present conditions obtain for any length of time, far more drastic changes in formulation are in prospect.

That the trend in buying habits in the past 12 months has been radically altered is borne out by a recent series of interviews with dentifrice makers, and confirmed, too, by figures from the latest consumer analyses. A recent survey of the Milwaukee market, which often reflects national trends, reports that: "the use of tooth paste in the Milwaukee market shows a sharp drop this year. From 65 per cent of all families buying tooth paste in 1942, popularity dropped to 58.2 per cent this year (1943)." With but one exception, manufacturers contacted by a representative of *Soap* report a definite downward trend in toothpaste sales this year.

A check in representative department stores, however, shows that as yet stores are still stocking fairly complete lines of paste and powder. They normally require a used tube on purchase of a new tube. The Milwaukee survey goes on to report: "It will be noted that tooth powder has picked up some of the loss in the number of tooth paste buyers." The survey shows, further that the number of brands of tooth powder sold in the Milwaukee market increased from 71 to 77 this year. The comment is offered that: ". . . presumably the necessity for turning in old tubes when buying tooth paste played an important part in reversing buying habits this year."

While none of the dentifrice manufacturers contacted denied the trend away from tooth paste, one attempted to qualify his statement by pointing out that the trend began before the tube-for-tube deal was put into operation. Another manufacturer brought out the fact that people were using smaller used tubes in order to get larger tubes of tooth paste. He said for his firm dollar volume had increased on pastes, but that unit sales in the smaller sizes had dropped. An added reason why tooth paste in the tube is apparently slipping in consumer favor is the fact that it has been necessary to reduce the quality of tubes due to metal restrictions. This may have had an adverse effect on sales in that thinner, softer tubes are more liable to burst under pressure and thus offer an obstacle to resales. Another source disagreed that tubes now were inferior and denied reports of bursting. Another possible reason for the shift to powders may be due to the fact that manufacturers, aware that the Eastern tin sources had been cut off, foresaw the doom of the tube, and began at an early date to switch their sales emphasis to powders. The increased emphasis in advertising and other types of promotion on powders may now be having its effect on sales.

In the main, there is general agreement among manufacturers as to the reasons for the general increase in dentifrice sales. "The war," they say, "is responsible." The two most important factors stressed are that, first, increased incomes allow people to spend money for such things as dentifrices, which many families were unable to do in pre-war days. Second, the men and women in the armed forces are using more dentifrices than they did in civilian life. Some are using dentifrices for the first time in their lives; others are becoming regular users. "Reasons why" include the wholesale prices at which these dentifrices are sold in Post Exchanges and Canteens. Those who have not been accustomed to using a dentifrice regularly are doing so now because of the examples of those around them, or through stimulation by courses on personal cleanliness. Since the institution of the national draft, thousands of practical and not-so-practical gifts have been devised for the men and women in service. Among these are all manner of toilet kits, many fitted with tooth brushes, tubes of tooth paste or cans of powder, mirrors, shaving equipment, etc. And few indeed are the soldiers, sailors, or marines on whom some kind relative or friend has not lavished such a gift. The results are evident. Both on the home front and the battle fronts dentifrices have come into wider use than ever before.

IN addition to headaches brought about by packaging problems, manpower shortages, etc., dentifrice manufacturers, like so many others, are suffering from an acute condition in raw materials. Synthetic detergents, wetting agents, glycerine and castile or neutral white powdered soaps are all in short supply. To make matters worse, classifying dentifrice as a drug or cosmetic, the War Production Board recently issued an order, effective April 1, curtailing the use of glycerine in "drugs and cosmetics" to 1,150 pounds per month. While the extent of the glycerine curtailment may have come as a surprise, the curtailment itself had been foreseen by many. Anticipating

the order, dentifrice manufacturers had been conducting widespread experiments, and some have already changed their formulas as a result. If what has happened in Great Britain is any criterion of what American dentifrice manufacturers can expect, many more formula changes are in store for the American public. One American manufacturer who sells his dentifrice rather extensively in England, reports that the formula of his product made and sold there, now bears only a slight resemblance to the pre-war product. Perhaps such far-reaching changes will not be made in the United States, but changes there will be, the extent of which cannot yet be fully foreseen.

The April 15 issue of *Tide* reported that "The entire raw materials problem (for dentifrice manufacturers) has become so critical that last month with the cooperation of the Toilet Goods Association, leading dentifrice manufacturers formed a committee, under the chairmanship of John S. Norton, vice-president of Lambert Pharmacal Co., to exchange information on industry troubles and possible solutions." As the first step in the direction of a solution, or at least an alleviation of the industry's problems, a committee of dentifrice manufacturers was appointed by the WPB. This group, composed by F. F. Berg of Squibb, Wm. M. Bristol of Bristol-Myers, H. F. Brownell of McKesson & Robbins, J. V. Kane of Iodent, J. Y. Lund of Lambert, Howard S. Lyon of Comfort Manufacturing Co., William A. Webster of William A. Webster Co., Herbert Woulfe of Pepsodent, W. L. Lingle of Procter & Gamble and A. H. Biebold of R. L. Watkins Co., met in Washington, April 21. The meeting was presided over by C. A. Willard, government's representative on the committee. The principal topic for discussion was raw material supplies. The group was addressed by six chiefs or sub-chiefs of WPB units who dealt with topics relating to the manufacture of dentifrices such as glycerine, glucose, containers, shipping space, etc. Glycerine, tooth paste makers' Number One headache, and the question of substitutes for it—glucose, propylene and ethylene glycol, corn syrup, invert sugar, etc.—came in for a great deal of attention.

THE WAY IT LOOKS IN Washington

by

JAY A. BONWIT

SOAPERS will shortly be allowed to buy back from the government stockpile quantities of high lauric acid oils equal to the amounts sold by them to the Commodity Credit Corp. from their M-60 inventory quotas. In order to qualify, a firm must have a letter or telegram in the hands of the Fats and Oils Branch, Food Distribution Administration, Room 2102, Temporary Building "S", Washington, D. C. by the close of business May 15, 1943, containing the following information:

1. A statement certifying that the applicant will use any high lauric acid oils released to him from Government stockpile in his own manufacturing processes and in accordance with all orders governing the use of fats and oils.

2. The amount in pounds of high lauric acid oils sold by the applicant to the Commodity Credit Corporation from his M-60 inventory quota.

ACTION of the OPA last month in lifting price ceilings on small-lot shipments of tallow to certain specified consumers set in motion a series of effects which for a time created a very serious tallow supply situation for soap makers. The latest development is a sharp revision in the terms of the original order, and an admission in an OPA bulletin that its action has seriously disrupted the tallow market.

Higher price ceilings on small-lot shipments of tallow to certain specified consumers were authorized by the OPA, April 6. Amendment No. 23 to Revised Price Schedule No. 53 covering fats and oils allowed sellers to add premiums of ⅜ cent a pound on carload shipments of returnable drums, barrels or tierces, and ⅞ cent a pound on shipments in such containers in less than carload lots. On non-returnable drums premiums of 1 cent and 1½ cents per pound were set.

The reason cited by OPA for taking the original action was that some tallow users turning out war materials were finding it impossible to get supplies of tallow since they were not allowed, under the OPA ceiling restrictions, to pay producers any premium for sales in small quantities or in special packages. The permitted increases in the ceiling levels were designed to allow buyers in this group to fill their tallow needs. Among the buyers to whom sales at the higher levels were legalized were manufacturers of chemicals, metal polishes, adhesives, wire drawing compounds, defoaming compounds, etc. Soap makers were not included in this list.

Shortly after the new price ceilings were established, tallow buyers in the soap industry began to report that they were unable to buy any stocks of tallows and greases, as sellers were apparently reserving all their offerings to sell at the higher levels. Vigorous complaints were filed with OPA officials, particularly since these favored tallow buyers generally do not recover glycerin. The complaint was also made that by placing a premium on certain sales in a bullish market, the OPA was actually exercising a priority function in allocation of fats and oils, control of which is supposed to be under the jurisdiction of the FDA.

On April 20, the OPA moved to modify its original order by providing that "only those persons who have obtained a priority order or rating from the Food Distribution Administration may pay a premium for tallows and greases." The amended order also removes the special premium referred to above on sales in less-than-carload lots. It further restricts sales at the premium levels to sellers who have customarily charged a premium for small-container packing in the past. It remains to be seen whether this modification of the original order will have the desired effect.

Instead of five cents per pound for recovered waste household grease as payment to housewives and others, the proposal has been made in Washington and reported in the newspapers that consideration by O.P.A. is being given to the issuance of meat or fat

ration points in place of money payments. With ration points as an incentive, it is believed that the collection of household waste fats can be expanded materially. It is pointed out that whereas the small cash payment has not been an inducement to save fats, the prospect of additional ration coupons good for meat or cooking fats will bring out the fats.

NEGOTIATIONS for release of metals for sprayers constituted the most important Washington development in the insecticide field during the past month. While action to release the metal was expected for the latter part of April, the physical difficulties in accumulating statistics for placing a satisfactory program into effect delayed action. The outlook for metal for sprayers is good, although the form that this metal release will take was still undetermined at this writing.

Production and other difficulties in fabricating non-critical material sprayers underlie the movement to release metals for household sprayers, and while sprayers of cardboard and plastic and glass may have effected some material savings, general opinion is that release of metal will be needed to go any appreciable way toward reducing the pressure on the industry due to the large scale requirements for war purposes and for victory garden use.

Stocks of prefabricated metal for sprayers frozen by Order M-126 (the iron and steel use limitation order) will probably be released. These stocks are not adaptable for other use, and consequently represent an economic waste if they continue to be frozen. In addition, it appears likely that additional quantities of metal may be made available for sprayer production, taking into account the vastly increased demand, for while some spray guns made of iron and steel are still available, it appears that supplies of these and of sprayers that will become available through release of frozen stocks will not be sufficient to meet the requirements.

WPB issued a statement on supplies of insecticides, early last month, bearing out the forecast made in this column in April that limited quantities of pyrethrum and rotenone, as well as copper, are to be made available for victory garden use. However, there is continued stress on the importance of conserving these scarce materials, and the necessity for substituting more readily available insecticides wherever possible.

Victory gardeners are being urged by WPB to use the insecticides which are in greatest supply, with particular emphasis on nicotine sulfate, cryolite, arsenicals, sulfur, and certain types of synthetic insecticides. Despite this appeal to the public to conserve on critical materials, the major responsibility is with the industry for substituting the materials in greater supply for those that are critical.

It is significant in this connection that WPB's latest issue of its "Material Substitutions and Supply List" creates a new grouping for "Insecticides and Fungicides," some of which previously had been listed under Chemicals or Miscellaneous Products. The new listing is the result of the growing importance of the food situation, with the parallel problems of insecticides to protect the nation's food supply.

The Material Substitutions and Supply List, designed to guide industry in the conservation of more critical materials through substitution of less critical and non-critical materials, lists Insecticides and Fungicides in Group I, which includes materials that are insufficient in supply either for war demands alone or for war plus essential civilian needs. Listed are arsenic and derivatives, copper chemicals, dichlorethyl ether, ethylene diehloride, castor oil, pyrethrum and rotenone. Methyl bromide and nicotine sulfate are listed as materials which are available in quantities large enough to make them adaptable as substitutes.

Restrictions on the quantity of glass containers that can be bought by chemical manufacturers, bottlers and other commercial users were imposed by the WPB April 13, by the issuance of Supplementary Order L-103-a. It prohibits acquisitions which will increase inventories to more than a 60-day supply of any particular item.

Employees of plants manufacturing glycerine come under the "job freezing" controls set up by the War Manpower Commission last month, the Association of American Soap and Glycerine Producers advised its members in a bulletin issued April 19. The bulletin points out that glycerine production is specifically included in the list of essential activities, workers in which are subject to control.

New Cleaning Compound Spec

A new federal specification for cleaning compound of the soap-abrasive type for painted surfaces (P-C-565) has recently been approved by the Director of Procurement, and will shortly become effective. The product is to be without objectionable odor, and not harmful to the hands. The seller must label each container with directions for use, and it is specified that the product must be capable of being applied either with a damp cloth or sponge. It is to be a uniform soft paste, meeting following requirements.

Matter volatile at 105° C. shall not exceed 65 per cent by weight. It shall contain no more than 0.1 per cent by weight of free alkali calculated as NaOH. It shall contain not more than 0.5 per cent by weight free acid calculated as oleic acid. Alkaline salts calculated as Na_2CO_3 shall not exceed 5 per cent by weight. Insoluble siliceous matter shall be not less than 25 per cent nor more than 50 per cent by weight. All of the insoluble siliceous matter shall pass through a No. 80 sieve; and not more than 15 per cent shall be retained on a No. 200 sieve. Anhydrous soap shall be not less than 3.5 per cent by weight.

A special test is provided for determination of abrasive properties. A thin film of the compound is spread over a clear microscopic slide. Another slide is placed over the film and the two slides pressed together, using a slight pressure, and rubbing one slide over the other with a rotary motion. The slides when wiped clean of the compound shall not be scratched.

New Products

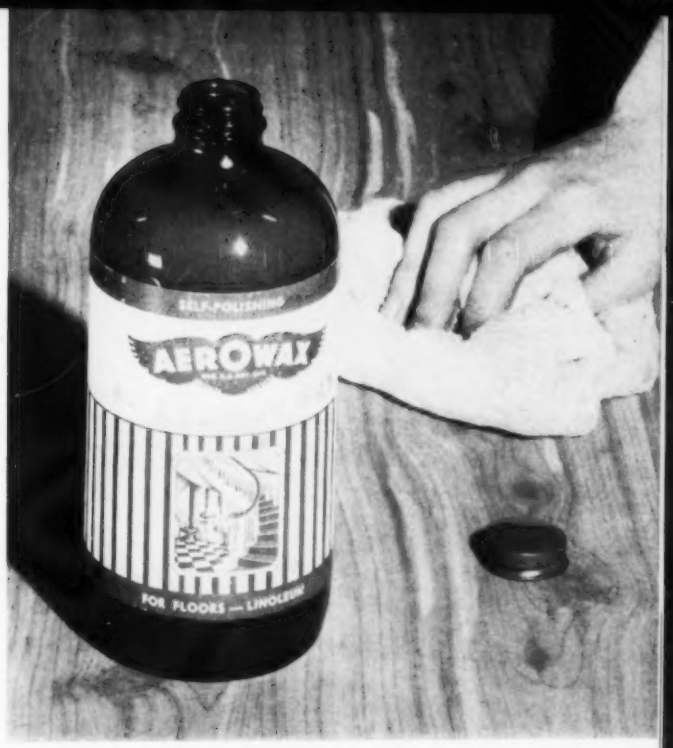
. . .

The new all-paper Kirkman Cleanser container features a new label design that is covered with a tear-off copy of the label used on the previous package to provide consumer identification during the transition period from the old design to the new cardboard container.

Reading from left to right: the old and the new containers for Armstrong Cork Co., Lancaster, Pa., floor cleaner and Linogloss wax. The new packages are 32-ounce round amber bottles that are labeled to preserve a well-established identity.

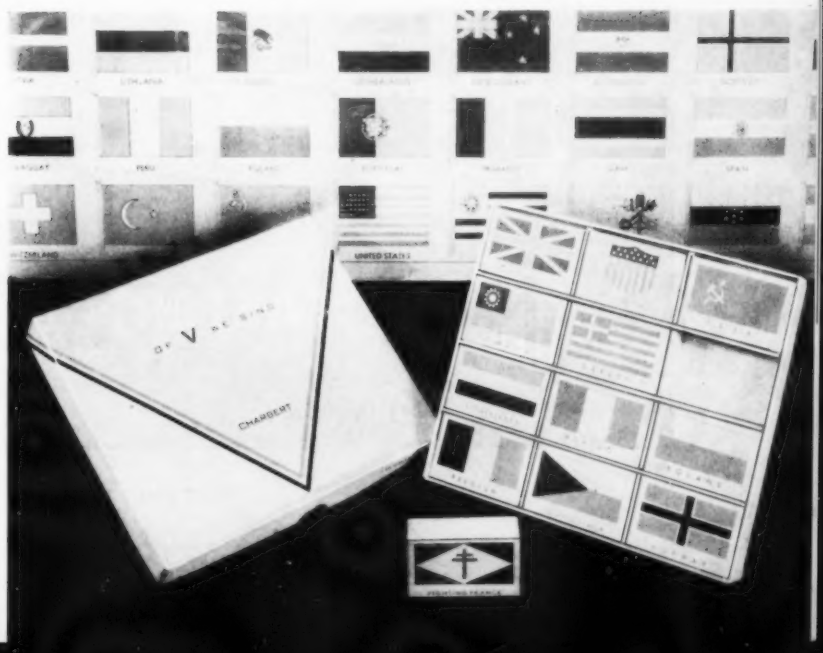
Colgate - Palmolive - Peet Co., Jersey City, N. J., get around the tin shortage very nicely by using plastic tubes for their Ribbon - Dental tooth paste. The tubes, which resemble the metal article, are made by the Celluplastic Corp., Newark, N. J. Caps are plastic also.

and Packages



Boston round Duraglas bottles have been chosen by Midway Chemical Co., Jersey City, N. J., to package Aerowax, the company's no rubbing floor wax. Of unusual design, the attractively striped blue and white wrap-around label stands out.

One more illustration of the effect of war on packaging is shown by this Squibb tooth powder container which replaces the metal of pre-war days with paper. The pour top is plastic. Cleveland Container Corp. makes the new package.



"Of V We Sing" toilet soap by Charbert, New York, comes twelve small cakes to the box, each cake packaged individually and each package bearing a flag of one of the United Nations. The box retails for $1.

RAW MATERIALS

FOR THE SOAP AND ALLIED INDUSTRIES

ANIMAL OILS, FATS, CHEMICALS, VEGETABLE OILS

DRUMS — TANK CARS — TANK WAGONS

COCOANUT OIL

CAUSTIC POTASH

STEARIC ACID

CAUSTIC SODA

RED OIL

TALLOW

Every raw material necessary for the manufacture of soap and allied products is carried in stock and is available at the right price for immediate delivery to your door.

PALMITIC ACID

90-95% Pure White, High Melting Point

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Inquiries solicited on this low price glycerine replacement.

ALCOHOL
AMMONIA
BLEACHING POWDER
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CARBON TETRACHLORIDE
CALCIUM CHLORIDE
CAUSTIC SODA
CAUSTIC POTASH
DYES
DISODIUM PHOSPHATE
GLAUBER'S SALTS
GLYCERINE
METASILICATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
TRISODIUM PHOSPHATE

CASTOR OIL
COCOANUT OIL
CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID - RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
PEANUT OIL
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iEi

EASTERN INDUSTRIES, INC.

RIDGEFIELD, N. J.

NEWS

Seek Relief for Potash Soapers

The Board of Directors of the Association of American Soap & Glycerine Producers has just appealed to the Food Distribution Administration through the medium of Russell Young, chairman of the association's potash soap division, for raw material relief for potash soap manufacturers who have found great difficulty over recent weeks in purchasing permissible fatty acids, and who in many cases are facing possible shut-downs for lack of raw materials. The appeal follows the action of the FDA in denying permission to two potash soap firms to use whole linseed oil in the face of unavailability of other raw materials. In denying this request the FDA advised that linseed fatty acids are available, a report which many potash soap makers say is not correct based on their own experiences in attempting to make purchases. They have now asked the soap and glycerine division of the FDA to either indicate where such fatty acids can be obtained, or to entertain their plea for relief.

Turco Offers New Cleaner

Turco Products, Inc., Los Angeles, have developed a new cleaning compound for use in laundries which, it is claimed, shortens the wash formula. By quickly loosening the soil, a high percentage of it can be rinsed off, making very little soap necessary for the finishing rub.

Swift Advances Horace Taylor

Horace F. Taylor has just been named manager of the soap plant of Swift & Co. at East Cambridge, Mass. He succeeds R. H. Hull, retired. Mr. Taylor has been with Swift & Co. for 42 years, starting in the Chicago research laboratory. For a number of years he was superintendent of the soap plant there, and later became technical representative of Swift's industrial soap and detergent division.

HORACE F. TAYLOR

In his new position he will be in direct charge of the company's eastern plant which services and supplies soaps and detergents to the New England and east coast states.

Utah Soap Founder Dies

John R. Bruff, founder and president of Utah Soap Co., Salt Lake City, died recently at the age of 79. A native of Indiana, he had lived in Utah for the past fifty years and was prominently identified with a number of business organizations there, including the Utah Shippers' Association, the Utah Manufacturers' Association and the Salt Lake City Chamber of Commerce.

NOPCO Offer New Soap Base

National Oil Products Co., Harrison, N. J., has issued a bulletin, describing a new heavy bodied liquid soap which is recommended for the preparation of soap shampoos and liquid toilet soaps and as the base for scrub soaps.

Prindeville New Oil, Fat Chief

C. T. Prindeville has just been named chief of the fats and oils section of the Food Distribution Administration, succeeding Robert W. Capps who has resigned. Mr. Capps, who just became chief of the section in February, had formerly been connected with Zimmerman, Alderson & Carr, fat and oil dealers. Mr. Prindeville who has been serving under Mr. Capps for several months, was formerly vice-president of Swift & Co. in charge of the oil seeds crushing division.

Revise OPA Soap Rules

Market area restrictions embodied in OPA's Commodity Practices Regulation No. 1, affecting packaged washing powders and cleansers having 20 per cent or less dry soap content, were removed as of April 21 by issuance of Amendment 1 to the regulations. In its original form CPR No. 1 limited manufacturers' sales of bar or package soaps or cleansers to the areas in which they made sales during the 30-day period ending July 17, 1942. For package washing powders and cleansers having 20 per cent or less anhydrous soap content, that restriction is now removed, and they can be sold anywhere. For other bar or package soaps or cleansers the restrictions of CPR No. 1 are still in effect.

James Vermilyea Dies

James H. Vermilyea, retired vice-president of Welch, Holme & Clark Co., New York, dealers in soap making raw materials, died April 17, at his home in East Orange, N. J., after a long illness. He retired in 1938. Besides his widow, Mrs. Ethel Tomlinson Vermilyea, one son, Hewitt, and two daughters, Doris and Alice survive him.

There are more ways than one to scent a soap

If you are having trouble maintaining consistent quality and continuity of soap odors from month to month, turn to Du Pont for advice and help.

Our skilled chemists know that despite wartime shortages, there's more than one way to scent a soap. They have recommended changes in formulas. They have helped many manufacturers match odors exactly and carry on the high standards of their products.

Of course there are increased difficulties in making synthetic aromatics. But Du Pont Aromatics chemists are adapting available supplies to the needs of the trade. You can depend on all Du Pont Aromatics for maximum odor value, controlled strength, chemical composition and purity.

Synthetic aromatics are a product of chemistry, and Du Pont Synthetic Aromatics reflect the technical skill of all the Du Pont laboratories. E.I. du Pont de Nemours & Co. (Inc.), Aromatics Section, 40 Worth Street, New York, New York.

Write for the complete list of available Du Pont Aromatics. Among the many recommended for soap, ***and now available, are the following:***

INDOLE	**ANISIC ALDEHYDE (AUBEPINE)**
ALPINE VIOLET (CYCLAMEN ALDEHYDE)	**ISOBORNYL ACETATE**
ISO AMYL BENZYL ETHER	**TERPINEOL**
METHYL ANTHRANILATE	**TERPINYL PROPIONATE**
TERPINYL ACETATE	

DU PONT
REG. U.S. PAT. OFF.

Aromatics

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

MCA to Meet June 3

The annual meeting of the Manufacturing Chemists' Association will be held in New York City this year, instead of at a resort hotel as in previous years. The date has been set for June 3 and the sessions will be held at the Waldorf-Astoria Hotel. The annual joint dinner with the members of the Synthetic Organic Chemical Manufacturers Association will be held the evening of June 3 at the hotel. The latter organization is expected to hold a two-day session at Absecon, N. J., June 4 and 5 following the MCA meeting in New York.

Shulton Sales Changes

W. H. Coffin, who has been with Shulton, Inc., for the past five years as sales representative in Kansas, Oklahoma, Texas and New Mexico, is now a representative for the Company in Louisiana, Mississippi, Alabama and part of Florida. This latter territory previously was covered by I. Paul Cole now in the Armed Forces. Mr. Coffin's former territory is now covered by J. Herschell who has been in the Dallas office for the past two years.

Claim Soap Cuts Absenteeism

Skotch Products Corp., Cleveland, O., makers of liquid soap, dishwashing powders and soap dispensers, are now featuring their "Sopac" safety powdered hand soap as an aid in reducing absenteeism. "Sopac," according to a circular recently issued, contains ingredients which are said to give the product a very light density and high sudsing powder.

Wood Expansion Plans

G. H. Wood & Co., Ltd., Toronto, Canada, manufacturers, sellers and servicers of industrial sanitation, are currently advertising for new lines for Canadian production and/or distribution, particularly with reference to post-war possibilities of development. G. H. Wood & Co., Ltd., have factories in Toronto and Montreal, and branches throughout Canada. Distribution is handled by forty sales representatives. For further information interested parties are asked to write to G. H. Wood & Co., Ltd., 323 Keele Street, Toronto, in care of G. H. Wood.

CDACA Hears Of Alaska

Colored motion pictures and a lecture on Alaska were the highlights of the monthly luncheon of the Chicago Drug and Chemical Association, which was held at the Union League Club, April 29. William L. Darden, noted naturalist, traveler, photographer and lecturer, who has just returned to the United States after eight years in Alaska was the guest speaker.

Carman Earnings Fall

A net profit of $176,711 for 1942, after a $35,000 reserve was set aside for possible future inventory loss, was reported recently by Carman & Co., and subsidiaries, New York. Profit of $270,724 was reported in 1941.

Refrigerator Odor Neutralizer

Tamms Silica Co., Chicago, has announced a new odor neutralizer for use in refrigerators or food storage rooms. It is said to prevent butter and other foods from absorbing offensive odors.

TGA Meets in N. Y. May 12-13

The annual meeting of the Toilet Goods Association is to be held at the Waldorf-Astoria, New York, May 12-14. The complete program for the meeting, as released by S. L. Mayham, secretary of the association, is as follows:

WEDNESDAY
May 12, 1943

10:00 a.m.
Call to Order
Communications
Appointment of Nominating Committee
Appointment of Auditing Committee
Appointment of Resolutions Committee

10:15 a.m.
Scientific Symposium
S. L. Mayham, Executive Secretary, Presiding
Conservation and Substitution in the Formulation of Cosmetics
By Dr. E. C. Merrill, United Drug Co., Boston, Mass.
Pharmacological Considerations in the Selection of Cosmetic Raw Materials
By O. S. Gibbs, M.D., Plough, Inc., Memphis, Tenn.
A Study of Bromo-Acid Solvents
By James H. Hall, Pond's Extract Co., Clinton, Conn.

11:30 a.m.
An "Information Please" on Containers and Closures
Panel of Experts consisting of:
Alfred F. Brady, Hazel-Atlas Glass Co.
B. Franklin Conner, Colt's Patent Fire Arms Mfg. Co.
Richard M. Krause, Richard M. Krauss, Inc.
J. H. Patterson, F. N. Burt Co., Ltd.
Frederic Remington, Peerless Tube Co.
L. R. Root, Scovill Mfg. Co.
C. H. Vanderlaan, Vanderlaan Tile Co.
Karl Voss, Karl Voss Corp.
Luncheon

2:00 p.m.
Address on the Activities of the Toilet Goods Association, Inc. (1942-1943)
By Herman L. Brooks, President
Legal Trends in the Toilet Goods Industry
By Hugo Mock, Counsel
Report of the Board of Standards
By H. D. Goulden, Director

3:00 p.m.
Wartime Trends in the Merchandising of Toilet Goods
By A. C. Nielsen, A. C. Nielson Co., Chicago
How Women War Workers Have Influenced Cosmetic Trends
By Irene Stanley, St. Louis Globe-Democrat

THURSDAY
May 13, 1943

Price Control and the Toilet Goods Industry
By J. J. Toohy, Head, Section "C", Chemicals & Drugs Branch, OPA, Wash., D. C.

10:30 a.m.
The War Production Board's Activities and Program for the Toilet Goods Industry
By G. A. Willard, Deputy Chief, Drugs & Cosmetics Section, Chemicals Branch, W.P.B., Wash., D. C.

11:00 a.m.
Report of Special Committee on Proprietary Toilet Goods
By John S. Norton, Lambert Pharmacal Co., St. Louis

11:45 a.m.
Manpower Problems
By Robert Abelow, Executive Director, National War Labor Board, New York

Luncheon

2:00 p.m.
Discussion of Voluntary Package Simplification

2:45 p.m.
Open Forum for Manufacturers of Cosmetics Only

4:30 p.m.
Election of Officers and Members of the Executive Board
Adjournment

P&G Earnings Off

A net income for the nine months ended March 31, of $15,327,845, equal to $2.32 a common share, was reported by Procter & Gamble Co., Cincinnati. This represents a sharp drop from the earning figure of $19,052,613, or $2.90 a common share, for the same period ending in 1942.

Ostrom Commissioned by Navy

John Ostrom, for several years secretary of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, has recently been commissioned as a lieutenant (j.g.) by the U. S. Navy, and has been assigned to active duty. Mr. Ostrom, who is a graduate of Yale, had studied Naval Science there, and formerly held a reserve commission as an ensign. No definite plans have been made by the section for replacement of Mr. Ostrom. Present plans call for carrying on the activities of the section with Mr. Ostrom's former staff, and with the special assistance of the chairman of the section and members of the advisory council.

Lehmann Moves N.Y. Office

J. M. Lehmann Co., soap machinery, has moved its general offices from 250 W. Broadway, New York City, to a new office building at the factory site in Lyndhurst, N. J. There the general offices, engineering department and manufacturing plant have been combined.

New Sergeant Chemical Plant

E. M. Sergeant Pulp and Chemical Co., New York, has just announced the establishment of a manufacturing subsidiary, Sergeant Chemical Co., 120 Lister St., Newark, N. J. The former Sergeant plant at Port Newark, N. J., was recently taken over by the U. S. Navy.

New Nat. Can Sales Head

Kenneth R. Brown, credit manager of National Can Corp., for the past eight years, was appointed general sales manager of the company's sanitary can division, it was announced recently. Mr. Brown will make his headquarters in New York. F. B. McNamara, a member of the credit department for the past eight years, succeeds Mr. Brown as credit manager.

MOVE SOAP ASSN. OFFICE

The office of the Association of American Soap and Glycerine Producers has just been moved to 295 Madison Ave., New York. The telephone number is unchanged—MUrray Hill 4-5315. For quickest delivery, telegrams should be addressed to the association, care of Western Union private exchange WUX, New York City. The move to the new quarters was made April 30.

Industrial Post-War Plan

Post war industrial plans for combatting unemployment in Great Britain as devised by Lever Brothers and Unilever Ltd., are described in the March issue of *Soaps, Perfumery and Cosmetics*. The Lever plan consists of a series of proposals dealing with all the aspects of the economic questions relating to unemployment.

Adolph E. Valley Dies

Adolph E. Valley, who was Cleveland branch manager for Innis, Speiden & Co., died April 10. Mr. Valley, who was 39 years old, entered the employ of Innis, Speiden & Co. as a Cleveland salesman in 1933, and became manager of the Cleveland branch January 1, 1942.

Distribute Flag Booklet

"How To Display And Respect Our Flag," published by the United States Flag Association, Washington, D. C., is now being distributed by Welch, Holme & Clark Co., soap material distributors, New York. As the title implies, the booklet covers all situations in which the flag is displayed, and, in addition, gives the significance of the flag salute, occasions on which the flag should be displayed, and the dates of the entry into the Union of each of the states.

Container Order Changes

Stories were published here recently to the effect that order L-197, covering steel drums, was about to be amended by the WPB. One reason was given as the over-taxing of transportation facilities brought about by the return of used drums to packers. Talk of simplification and possible standardization for chemical shipping drums was discussed, although nothing has materialized as a result of this plan of the WPB. These reports concerning containers were precipitated by a two-day packaging conference at the Chemists Club in New York. Substitutes fibre containers, such as the five-gallon container now being tested by Sherwin-Williams for paint came in for some attention. Other containers with both metal tops and bottoms and all fibre, or other non-priority materials, for shipments of liquids, pastes and dry chemicals were the subject of interest and speculation.

Survey Brand Popularity

Results of brand popularity of soap products and similar toilet preparations, based on a recent True Story-Crossley Continuing Consumption Index survey of 1,044 families in ten medium sized United States cities, were published in the April 12, issue of *Advertising Age*. Products surveyed were found to rate in the order given: Toilet Soaps—Lifebuoy, Lux, Swan, Palmolive, Camay, Woodbury, Sweetheart, and Ivory (small); Laundry Bars and Cakes—Ivory (large), P&G Naptha, Ivory (medium), Fels Naptha, Octagon and Kirkman's; Laundry Flakes and Chips—Rinso, Duz, Oxydol, Lux Flakes, Super Suds and Ivory Snow; Cleansing and Scouring Agents—Old Dutch, Sunbrite, Brillo, Bab-O, Bon Ami and S.O.S. Pads; Dentifrices—Ipana, Colgate Paste, Dr. Lyons Powder, Pepsodent Powder, Pepsodent Paste, Teel Liquid and Colgate Powder.

CDACA Dance May 22

The 15th Annual Spring Dinner Dance of the Chicago Drug and Chemical Association will be held May 22, at the Drake Hotel. Cocktails will be served in the French Room and the dinner in the Gold Coast Room.

the Promise
OF AMERICA

America has always been a land of promise, but never more so than today. In the past it has been mainly a promise to individuals seeking freedom and opportunity. Today it is a promise to nations. For in the freedom of the individual we have found the way by which nations may become strong and free, not at the expense but to the benefit of other nations.

Niagara has always been an expression of America's great resources and unlimited opportunities. It is also a symbol of friendship and cooperation because its power and beauty are shared equally with a country that has grown and prospered and remained free as a neighbor of America. Here is the vision and the substance of Democracy—the proof of history that decency among nations is as fruitful as decency among men. It is also proof of the fact that mutual respect is a source of self-respect and a basis for the lasting peace for which all nations hope.

We who work within sight and sound of Niagara Falls are devoting every ounce of our energies and facilities to speeding the flow of chemicals for Victory.

CAUSTIC POTASH · CAUSTIC SODA
PARA · CARBONATE OF POTASH
LIQUID CHLORINE

FROM THE ORIGINAL BY JOHN S. DeMARTELLY . . . IN NIAGARA ALKALI COMPANY'S COLLECTION OF PAINTINGS OF NIAGARA FALLS

Niagara ALKALI COMPANY
60 EAST 42nd STREET, NEW YORK, N. Y.

An Essential Part Of America's Great Chemical Enterprise

New Containers at Packaging Show

A FEW new solutions to the packaging problem, presented to manufacturers who have in the past used metal, were shown at the Wartime Packaging Conference and Exposition of the American Management Association, held at the Hotel Astor, New York, April 13, 14, 15 and 16. In general, the solution seems to lie mainly in the direction of glass, fibre or paper, with manufacturers of liquid or paste products seeming to favor paper for the smaller packages and fibre for the larger ones. What has already been accomplished by the container manufacturers has been remarkable, more so considering the wartime handicaps under which they are working. However, substitute drums, pails or smaller packages are by no means freely available. This was borne out by representatives of container manufacturers contacted at the show. Most of the containers, including glass, for which orders are still being taken, are being delivered in anywhere from two to four months time. This is caused not alone by manpower and raw material shortages, but also by the fact that government purchases are taking off so much of the container peoples' output.

One firm exhibiting at the show who reported they were in a position to make deliveries and take on new business was the Cleveland Container Co., Cleveland, Ohio. This firm's line ranges from metal end, fibre body containers used for packaging dry products and all-paper utility containers for packaging drugs and chemicals, to low cost fibre drums, from 1-17 gallons, with a newly developed coating to hold greases, paints, heavy oils, etc. Cleveland also manufactures printed tubes to be used as vial containers, etc. Bristol-Myers is using one of these all-paper tubes for its "Mytol" tooth powder. A new plant, which is to be opened shortly at Ogdensburg, New York, will speed up deliveries, according to a company spokesman.

The glass packaging field was represented by Owens-Illinois Glass Co., Toledo, O., Armstrong Cork Co., Lancaster, Pa. and Anchor Hocking Glass Corp., Lancaster, Ohio. They showed complete lines of the types of glass packages which they are offering and which are being adopted by many manufacturers in the soap and sanitary chemical field.

Fibre board drums in 100 pound, 25 pound and 30 pounds sizes were displayed by Container Corporation of America, Chicago, and appeared to solve the problem of finding substitute drums for those fortunate to be able to receive delivery. Unfortunately, Container Corp. of America is unable to take on any new business because of the shortage of fibre board, which is now being pooled and delivered more or less on a priority basis. Other drums of Container Company, of Van Wert, Ohio, lined with cellulose acetate and coming in five and 24 gallon sizes were on display. These drums featured metal tops and bottoms with steel bands at top and bottom for reinforcement.

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Extend "Rainier" Soap Market

Rainer Soap Co., Boston, Mass., introduced its "Rainer" mineral complexion soap in Chicago, in March, with a special promotion at Mandel Bros. The Chicago sale was announced as the first step in the company's plan to extend its market outlets beyond the eastern seaboard states, where the product was heretofore chiefly sold.

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Offer New Dog Soap

"Wash-A-Pooch," super-foaming bubble bath for dogs and cats, has been introduced in Chicago pet shops, distribution being made by the Albert Dickinson Co., Chicago seed house.

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Cosmetic Meeting in Washington

Manufacturers, distributors and retailers of cosmetics sold in 5 and 10-cent stores met in Washington, April 20, for a conference with OPA officials on the problems of pricing their lines and working out plans to make possible continued sale of dime store sizes of cosmetics. Manufacturers of dentifrices and shaving soaps were represented, as well as those firms making and selling the purely cosmetic items.

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Collect Soap for Russia

Six bars of soap were demanded as the admission to a party sponsored by the Chicago chapter of the Russian War Relief Society in that city, April 10. Both toilet and laundry soaps were accepted and all receipts are to be shipped to Russia.

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Soap Fat, Oil Use Declines in '42

Consumption of animal and vegetable fats and oils by the soap industry during 1942 totaled 1,870,556,000 lbs., according to figures just released by the U. S. Bureau of the Census. This compares with a total of 2,143,857,000 lbs. for the previous year. While the drop from the previous year's total is considerable, it should be kept in mind that average oil and fat consumption by the soap industry for the previous five-year period was only approximately 1,543,000,000 lbs., from which average the 1942 consumption represents a 20 per cent advance. It must be kept in mind, too, that fatty acids, foots, rosin, tall oil, etc., are not included in the fat and oil totals. Increased quantities of all of these materials were used in the soap kettle during 1942.

The outstanding change in the soap kettle charge during 1942 was the sharp decline in use of coconut oil. Only 140,487,000 lbs. were used by soap makers during 1942, as compared with 484,124,000 lbs. during the previous year. An increase in tallow use by soap makers compensated partially for this coconut shortage. Soap makers used 1,188,923,000 lbs. of tallow during 1942 as against 1,057,303,000 lbs. during 1941. A more complete analysis of soap makers' 1942 oil and fat use is included in the 1943 edition of the Soap Blue Book, recently mailed to subscribers to *Soap and Sanitary Chemicals* (p. 145).

MASK IT WITH THESE LOW COST, HIGHLY EFFICIENT DEODORANTS

Time-proven, easy to use, unfailing in results . . . these are some of the advantages of using the following economical F.B. deodorant specialties to combat the objectionable odor of your fly spray, insecticide or other technical products.

NEUTROLEUM is a general purpose deodorant which completely and permanently deodorizes a great variety of technical mixtures,—including insecticides based upon petroleum distillates,—at very low cost. Available in two types—NEUTROLEUM ALPHA for use when no additional aromatics are employed, and NEUTROLEUM GAMMA for neutralizing odors without imparting a perceptible aromatic character.

THANITE DEODORANTS No. 14153, No. 14154 and No. 14155 are very effective in counteracting the unpleasant odor of Thanite. The first two impart a pleasant scent to the spray, and at the same time neutralize the odor. No. 14155 neutralizes the odorous Thanite but does not impart a definite perfume note. Rate of use: 1/10 of 1% per unit quantity of finished spray.

DEODORANT No. 13454 is more economical than the foregoing, producing practically a neutral spray with even less than the proportions indicated above.

DEODORANT P-36 is for sprays based upon Lethane 384 Special. From 1 to 1¼ ounces per gallon of *undiluted* Lethane will produce excellent results.

Address us on your letterhead for samples and further particulars.

In our Country's Service

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS

BOSTON · CHICAGO · LOS ANGELES · ST. LOUIS · TORONTO, CANADA · MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

Cite P&G for Teel Claims

A complaint charging Procter & Gamble Co. with unfair disparagement of tooth pastes and powders sold by competitors has been filed by the Federal Trade Commission, based on statements alleged to have been made in advertising "Teel," new liquid dentifrice being marketed by P&G. The commission said "Teel" advertisements assert most pastes and powders contain abrasives which harm the teeth. Tooth pastes and powders do contain abrasives, but these do not cause cavities, the FTC said, adding that "since Teel has no abrasive qualities it cannot as effectively clean teeth, it is inferior as a cleansing and polishing agent to many of the popular brands of pastes and powders and its use permits discoloration which can only be removed from the teeth by a substance having abrasive properties."

Waste Fat Collections Mount

National collections of waste household fats during February showed an increase of 960,107 pounds, or 15 per cent, over January and reached another new high of 6,977,664 pounds for 41.8 per cent of the national quota, it was announced recently by the Salvage Division of WPB. Fifteen states increased their collections by more than 25 per cent in the shortest month of the year. Arkansas topped the list with a gain of 110 per cent over January, slightly ahead of Mississippi, which jumped 90 per cent.

Parento Employee To Army

Anthony J. Simone, who has been associated for 12 years with Compagnie Parento, Inc., Croton on Hudson, New York, essential oils, has recently entered the Army. At a farewell party, he was presented with a wrist watch by the company and several gifts from the employees.

G. A. Spaulding To FDA

Glen A. Spaulding, trade sales superintendent of Spencer Kellogg & Sons, Inc., Buffalo, N. Y., has been named an acting consultant to the Fats and Oil Branch of the Food Distribution Administration. His exact assignment has not yet been announced.

Buschman Nat'l Can Head

S. L. Buschman has just returned to his old post as president of National Can Corp., succeeding L. F. Gieg, resigned. Until early 1941, and for more than 10 years prior thereto, Mr. Buschman served the corporation as president, and was largely responsible for its growth. Since early 1941, he has been president of Canonsburg Steel & Iron Works, which position he retains. The latter company is now engaged 100 per cent in war work.

S. L. BUSCHMAN

John M. Millar Dies

John M. Millar, 67, vice-president of Lever Bros., Ltd., Toronto, until his retirement six months ago, died April 7, at his home there. He had served over 42 years with the Lever Canadian organization, and was widely known as well in dominion activities and fraternal organizations. He had been a director of the Canadian National Exhibition since 1933, and for the past two years had served as president. At the time of his death he held the position of Dominion Glycerine Controller.

Market New Skin Protector

Alexite Engineering Co., Alexander Bldg., Colorado Springs, Colo., has just put on the market a new skin protector under the name "Alexite." It is described as a non-greasy cream whose most important ingredient is said to be an inert micaceous mineral. It contains no soap. It is packed in three large shop sizes as well as a smaller container for home use.

BIMS To Golf June 23

The date for the opening golf tournament of the BIMS of New York, to be held at Wykagyl Country Club, New Rochelle, N. Y., has been advanced from Thursday, June 24, to Wednesday, June 23. The date for the second tournament of an abbreviated 1943 season will be August 24, and the site, Garden City Country Club, Garden City, L. I. Martin Schultes of the New York office of Hewitt Soap Co. is in charge of arrangements.

Rule on Oil Brokerage

Because numerous oil and fat brokers have been charging buyers a commission to secure fats and oils in the present tight market, in addition to the purchasers being forced to pay the ceiling price, the OPA ruled early last month that the total price paid by the buyer may no longer exceed established ceilings.

Honor Abbott Officials

S. DeWitt Clough, president of Abbott Laboratories, and Charles S. Downs, advertising manager of the company, were recipients of citations on behalf of the U. S. Treasury Department, at ceremonies in the Brooklyn Museum, April 9. The company has just donated 24 War Bond poster paintings by noted American artists, which will be used by the Treasury Department to stimulate War Bond sales.

Medal To Willard Dow

The Charles Frederick Chandler Medal of Columbia University has been awarded to Willard H. Dow, president of Dow Chemical Company, Midland, Mich., for the achievements of the Dow Chemical Company in the production of bromine from sea water, of magnesium from sea water, and synthetic plastics and synthetic rubber.

Standard Synthetics Escape Fire

Standard Synthetics, Inc., New York, essential oils, report that some of their stocks were damaged in a recent fire in neighboring premises, but that fortunately their own quarters were not directly affected by the flames.

Will it be s-m-o-o-t-h?

—with new oils or substitutes

You'll appreciate the velvety smoothness of the soaps made with the new ingredients and PQ Silicate. True, you may have to shift formulas a bit during this emergency, but it is possible to avoid "spreckles", and crumpling if you're making flakes.

Whatever oils you are using, there's a way to incorporate a PQ Silicate to produce quality soaps, —quality in appearance and performance. The answer in your plant may be a different silicate from that which has been your regular brand, or it may be an increase in the quantity of the silicate incorporated.

If you have a problem, we're always ready to try to help. Detergent silicates have long been a specialty with PQ.

ARE YOU FAMILIAR WITH THESE PQ SILICATES?

"N"—Popular low alkaline solution, 41° Baumé. Approximate ratio: 1:3.22.

"K"—More alkaline than "N", a 47° Baumé solution. Approximate ratio: 1:2.90.

"C"—Alkaline solution, 59.3° Baumé. Approximate ratio: 1:2.00.

SS-C-Pwd.—Anhydrous powdered sodium silicate. Ratio: 1:2.00. Slowly soluble.

Ask for Bulletin 17-1: describes over 30 PQ Silicates.

PHILADELPHIA QUARTZ CO.

SILICATES OF SODA

125 S. THIRD STREET, PHILA., PA.

Analyze Soap Buying Habits

A NUMBER of interesting trends in soap buying habits are pointed out in the latest (1943) edition of the Consumer Analysis of the Greater Milwaukee Market just released by the *Milwaukee Journal*. This annual consumer survey reviews the buying habits of a population of approximately 800,000 people in a typical urban community.

Among the important trends indicated this year is a further increase in the popularity of soap flakes and granulated soaps at the expense of white and brown laundry soap. Continuing a decidedly upward trend, practically constant since 1939, the use of granulated soap jumped to 85.1 per cent this year from last year's figure of 81.5 per cent. The use of package soap flakes increased from last year's popularity figure of 81.3 per cent to 82.1 per cent this year. The popularity of brown laundry soap dropped from last year's rating of 59.1 per cent to 58.2 per cent this year. White laundry soap registered a drop from 67.1 per cent last year to 66.5 per cent this year.

Another trend which is indicated to have developed further on the basis of this year's figures is the swing from tooth paste to tooth powder. The use of tooth paste among buyers in the Milwaukee market shows a decided drop this year, falling from the 1942 rating of 65 per cent to a figure of 58.2 per cent for 1943. Sale of tooth powder showed a more or less compensating gain, moving up from last year's popularity rating of 53.1 per cent to 56.6 per cent for 1943.

Somewhat the same situation was shown in the shaving cream field, the latest survey indicating a continuation of the swing from regular shaving cream to increased popularity of the brushless type. Following a downward trend which has extended over a long period of years, the popularity of regular shaving cream dropped to 36.5 per cent this year from last year's rating of 39.9 per cent. The use of brushless shaving cream reversed this procedure by moving up to 22.7 per cent use this year from last year's popularity rating of 22.1 per cent. Users were queried particularly in this year's survey regarding the type container they prefer for shaving cream. It was found that 86.9 per cent of all men prefer the tube, while only 13.1 per cent indicated a preference for packing in jars.

The popularity of liquid shampoo climbed to a new peak this year. Gaining new users year after year, liquid shampoos are currently in use by 60.4 per cent of all Milwaukee families, as against a figure of 57.1 per cent for 1942 and 50 per cent for 1941.

For the first time since 1940, figures on use of liquid window cleaners were collected in the Milwaukee survey this year. It is indicated that 37.7 per cent of all Milwaukee families are now regular users of such cleaning specialties as against only 28.2 per cent in 1940. Figures on bottled bleaching fluid also reappeared in the survey this year. It is currently in use by 77.3 per cent of Milwaukee householders as against 75.6 per cent in 1941. There has been a decided upward trend in the use of bottled bleaching fluid in Milwaukee ever since 1938.

The survey shows a number of interesting figures on use of specialized products for specific cleaning operations. The question was asked this year "Do you buy cleaning products for painted walls and woodwork," with some 67.3 per cent of all families indicating that they did buy and use such products. The use of special soaps for washing fine fabrics was indicated again this year to be almost universal, with 99.3 per cent of all Milwaukee housewives reported as regular buyers.

Copies of the complete survey are available through the *Milwaukee Journal*, Milwaukee, Wis. Additional figures taken from the survey, showing the leading products in each group are included in the 1943 *Blue Book* recently mailed to subscribers to *Soap and Sanitary Chemicals*.

SOAPS FOR MEN

With some other markets falling off under the effect of war time influences, just the reverse situation exists in the market for soaps and toiletries for men. The demand for attractive and useful gifts for service men has provided an expanding market for the products of those firms that have anticipated the trend. Watch for an article on this subject in an early issue of SOAP & SANITARY CHEMICALS.

Lever Opens Health Center

A completely equipped modern health center, designed to care for the physical well being of the more than 1,000 employees of the Canadian Lever organization, has just been opened at Lever House, Toronto. There is a staff of two doctors and four nurses who provide free service to all Lever employees. The company has also announced its participation in the Ontario Hospital Association industrial plan, contributing up to one-half of each employee's membership dues.

Advice on Spring Cleaning

"Spring Cleaning — Victory Style" is the title of an article in the March, 1943, issue of *Consumers' Guide*, published by the U. S. Department of Agriculture, giving the housewife advice on how to conduct her cleaning operations this year in the face of shortages of ammonia, steel wool, waxes, shellac, etc. The soap situation is relatively good, the article states, and no shortage threatens here as in other countries. However, the soap user is warned that because of changes in soap formulas, necessitated by war shortages, soaps will no longer lather as freely as they have in the past.

Brauneiss of Shulton Joins Navy

Clyde A. Brauneiss, a New York City sales representative of Shulton, Inc., has joined the United States Navy. He is being replaced by Clinton H. Harriman, formerly of E. I. du Pont de Nemours & Co.

"Keep your powder dry" was the first advice given young riflemen of the flint-and-steel era. Keeping ammunition dry is still all-important in these days of machine guns.

Here's the ammunition box that keeps out water even when submerged in a jungle stream or spilled into the surf from a landing barge! It's Caliber .30 Ammunition Box M-1 . . . and thousands of them are being turned out by Crown Can for our armed forces.

Specifications call for a container that is airtight and watertight under all climatic conditions . . . stout enough to stand the roughest handling . . . easily opened without tools . . . and capable of being resealed to remain waterproof.

Crown Can is turning them out to those specifications . . . and shipping them out in quantities we can't quote. But Hitler wouldn't like the figures!

CROWN CAN COMPANY
Philadelphia and New York. *Division of Crown Cork and Seal Co.*, Baltimore

★ ★ ★ ★

CROWN CAN

BIDS AND AWARDS

Veterans Dispenser Award

Huntington Laboratories, Huntington, Ind., received the award for three soap dispensers at $52.50 in a recent opening for miscellaneous supplies by the Veterans Administration Supply Division, Washington, D. C.

Low Shaving Soap Bids

The following low bids were submitted in a recent opening for miscellaneous supplies by the Veterans Administration Supply Division, Washington, D. C.: N. Brittingham & Sons, Philadelphia, Pa., 27c on 2460 pounds of shaving soap for Perryville, Md., and 5100 pounds for Hines, Ill.; Trade Laboratories, Newark, N. J., 54c on 3000 dozen tubes of shaving cream for Perryville, Md., in 1.2-ounce tubes, and 62.5c in 2.5-ounce tubes.

Trade Labs Low Bids

Trade Laboratories, Newark, N. J., submitted identical low bids of 58 1/3c on 6600 dozen tubes of tooth paste for Perryville, Md., and 11,000 dozen tubes of tooth paste for Hines, Ill., in a recent opening for miscellaneous supplies by the Veterans Administration Supply Division, Washington, D. C.

Low Navy Bids

The following low bids were received in recent openings by the New York Navy Purchasing Office, New York, for miscellaneous supplies: J. T. Baker Chemical Co., Phillipsburg, N. J., 45c on 1,000 pounds of caustic potash in stick form; Fuld Brothers, Baltimore, Md., 71c on a wooden case and 66.5c in corrugated cartons on 1,500 gallons of floor wax.

Post Office Bids

The following low bids were received in recent openings for miscellaneous supplies by the Post Office Supply Department, Washington, D. C.: Day & Frick, Philadelphia, 4.25c on 7,013 pounds of grit soap; Cole Laboratories, Long Island City, N. Y., 44.4c a gallon on 4,000 gallons of liquid furniture polish; Fuld Brothers, Baltimore, Md., 7c on 16,000 pounds metal polish; Fisher Industries, Cincinnati, O., 5.867c on 100 pounds of paste soap in 100 pound kegs, 5,467 on 50 pounds in 250-pound half-barrels, and Alco Oil & Chemical Corp., Philadelphia, Pa., 5.25c on 160 pounds of paste soap in 450-pound barrels.

Fuld Disinfectant Award

Fuld Brothers, Baltimore, Md., received the award of $91,563.95 in a recent opening of the Navy Bureau of Supplies, Washington, D. C., for an unspecified quantity of disinfectant.

Low Hand Cream Bid

Ditto, Inc., Chicago, submitted a low bid of 45c on 300 pounds of cleansing cream for the hands in a recent opening for miscellaneous supplies by the Bureau of Naval Supplies, Washington, D. C.

Low Bleaching Bid

Morris & Eckels Co. submitted the low bid of $19 a case on 1,500 pounds of bleaching materials in a recent opening for miscellaneous supplies by the District Government, Washington, D. C.

Soap Powder Awards

The following awards for varying amounts of soap powder have been made in a recent opening by the Navy Bureau of Supplies, Washington, D. C.: Colgate-Palmolive Peet Co., Berkeley, Calif., 500 M at 4.28c; Chemical Mfg. & Dist. Co., Easton, Pa., 2,500,000 lbs. and part of unspecified quantity, $12,543; Colgate-Palmolive-Peet Co., Brooklyn, N. Y., 2,000,000 lbs. and part of another tender, amount unspecified, at 4.03c and 3.95c; Armour & Co., Chicago, part of unspecified tender at 4.08c and 3.81c; Pacific Soap Co., Los Angeles, Calif., 4.16c on an amount unspecified in the tender.

Three Low Soap Bids

Among the low bids entered in a recent opening for miscellaneous supplies by the Panama Canal, Washington, D. C., were: 5.87c on 22,500 pounds of laundry soap, submitted by Armour & Co., Chicago; 11.306c on 5,625 pounds of toilet soap, submitted by Colgate-Palmolive-Peet Co., Jersey City, N. J., and 4.77c on 30,000 pounds of soap powder by Armour & Co., Chicago.

Ease Tube Restrictions

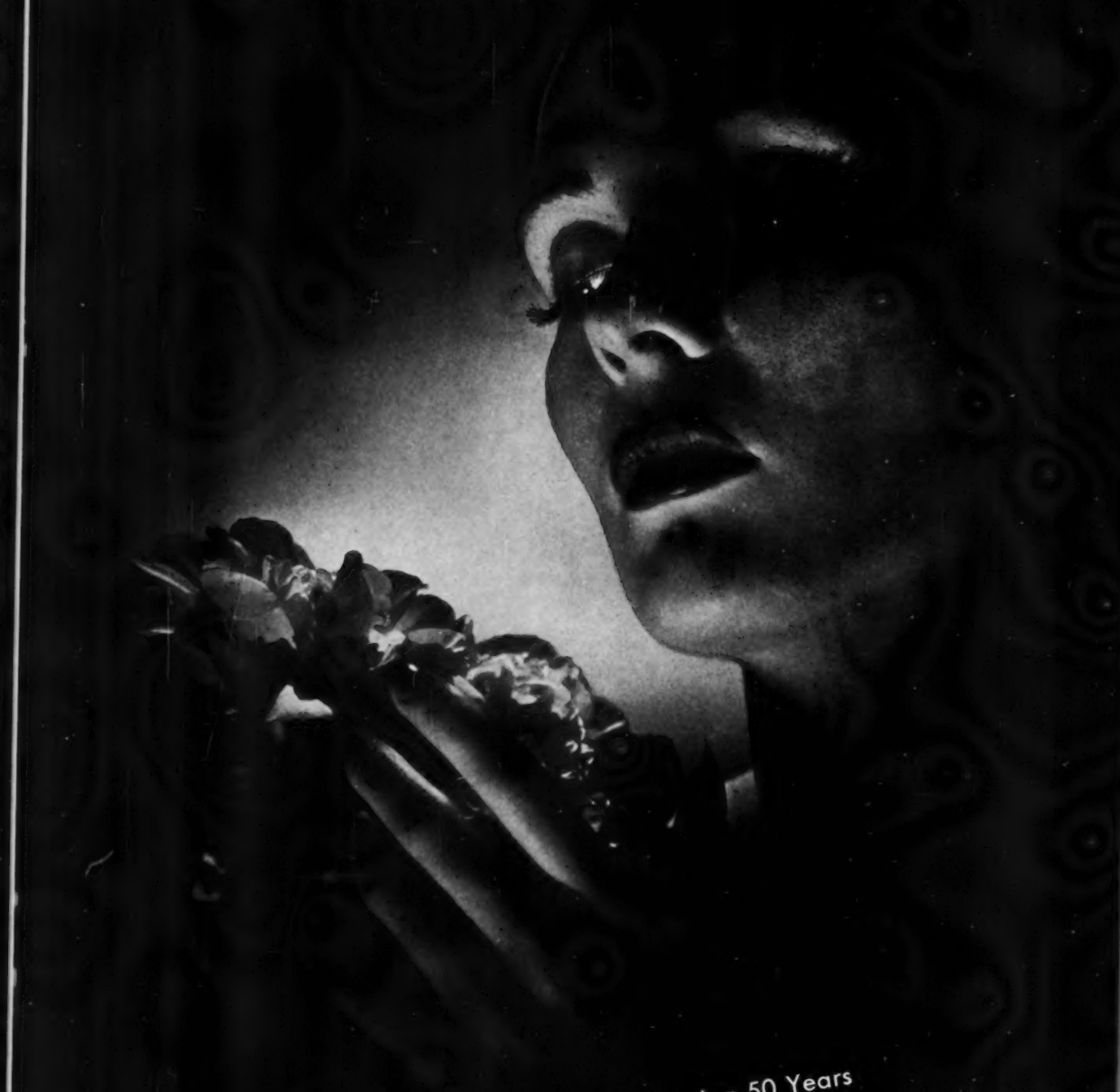
Manufacturers are now permitted to pack tooth paste in tin bearing tubes for the American Red Cross free of quota restrictions on the use of collapsible tubes, under the terms of Order M-115, as amended April 23, by the WPB. The order restricts current pack to not more than 75 per cent of the amount packed in 1942. The amended form of the order also permits the Red Cross to make free distribution of tubes of tooth paste or shaving cream without obtaining used tubes in exchange. Such distribution is made to members of the armed forces and certain others.

Claim Improved Can

Canister Co., Phillipsburg, N. J., has perfected, in conjunction with Shell Oil Co., a container for packing oils and liquids that is made entirely of non-critical materials, it was announced recently. Combining fibre, parchment paper and adhesives, the new container is already being used in serving motor oil to the public. Extensive shipping tests were conducted with the new container to see how it would stand up under rough handling, and according to reports, the containers stood up quite well. In addition, it is possible to punch an opening in the container without having the contents contaminated by bits of fibre, loose ends, etc.

AROMATICS

SYNTHETIC



Products of a Continuous Research Program Spanning 50 Years

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

TRADE MARKS

The following trade-marks were published in the April issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks

LANITOL—This in large upper-case letters for compound having detergent, penetrating and emulsifying properties. Filed July 4, 1942 by Arkansas Co., Inc., Newark, N. J. Claims use since January, 1938.

EVERSHAVE — This in upper-case letters on reverse block for shaving cream. Filed Nov. 30, 1942 by Abraham S. Freeman, doing business as Beacon Sales Co., Cleveland, O. Claims use since July 1, 1942.

NEW DAY ROUGE — This in upper-case open lettering on sun and cloud background for metal polish. Filed Jan. 18, 1943 by Oil Specialties & Refining Co., Inc., Brooklyn, N. Y. Claims use since June, 1937.

ISO-PARINOL — This in bold upper-case letters for germicidal and fungicidal preparation. Filed Dec. 19, 1942 by Medical Chemicals, Inc., Baltimore, Md. Claims use since Mar. 15, 1942.

MONIO—This in large, bold upper-case letters for ammonia substitute. Filed Jan. 21, 1943 by Seeman Brothers, Inc., New York. Claims use since Dec. 28, 1942.

ESTIK—This in bold upper-case letters for shaving stick. Filed Jan. 20, 1943 by Frederick C. Manheck, doing business as The Frederick Charles Co., Union City, N. J. Claims use since Oct. 23, 1940.

GREMLIN—This in bold upper-case letters for soap. Filed Jan. 26, 1943 by R. H. Macy & Co., New York. Claims use since Jan. 8, 1943.

TUSSY—This in bold upper-case letters for a complete assortment of toilet preparations. Filed Jan. 26, 1943 by Lehn & Fink Products Corp., Bloomfield, N. J. Claims use since Nov. 6, 1925.

ADVANCE—This in upper-case open and shadow lettering for facial tissue, toilet tissue, paper napkins and paper towels. Filed Nov. 5, 1941 by Ashland Paper Mills, Inc., Ashland, N. H. Claims use since 1933.

ODOLURE—This in bold letters for housing-like devices or enclosures for exposing poisonous or entrapping substances to vermin and insects and for trapping vermin and insects in them. Filed Dec. 19, 1941 by The Odosin Corp., New York. Claims use since Sept. 23, 1941.

(A Hollow Diamond) — This for cleaning and washing compounds. Filed Sept. 16, 1942 by Diamond Alkali Co., Pittsburgh, Pa. Claims use since 1912.

HAEMO-SOL — This in bold upper-case letters for liquid cleansing composition for surgical instruments. Filed Jan. 21, 1943 by Meinecke & Co., Inc., New York. Claims use since Jan. 8, 1943.

MINOR'S KRE-OL—This in bold upper-case letters for household cleaning and polishing paste. Filed Jan. 25, 1943. Claims use since Nov. 23, 1942.

STREETEX—This in bold upper-case letters for dry cleaning detergent. Filed Jan. 25, 1943 by R. R. Street & Co., Inc., Chicago, Ill. Claims use since March 1, 1936.

DERGON—This in stencil lettering for detergents used in processing of textiles. Filed Feb. 22, 1943 by Arkansas Co., Inc., Newark, N. J. Claims use since March, 1940.

I-O-SAL—This in bold lower-case letters with bold lines above and below the lettering for antiseptic and germicide for external application. Filed July 21, 1942 by Oscar Hayes, doing business as Atlas Laboratories, Akron, O. Claims use since May, 1933.

KOPERTOX—This in bold upper case letters for medical preparation to be used in the treatment of athlete's foot or similar fungus skin ailments. Filed Dec. 29, 1942 by Cuprinol, Inc., doing business as Kopertox Laboratories, Boston, Mass. Claims use since October, 1942.

X-OL — This in bold upper-case letters for wax polish for linoleum, wood floors, rubber tile, furniture, etc. Filed Jan. 18, 1943 by Turco Products, Inc., Los Angeles, Calif. Claims use since Nov. 1, 1934.

ACE—This in bold upper-case letters for cleaning compound for general use, and a preparation for removing carbon, grease and dirt from the hands. Filed May 9, 1941 by Alice Berndt, doing business as Ace Products Co., Detroit, Mich. Claims use since June 1, 1940.

7-70-7—This in bold figures for chemical preparation for cleaning silver, gold and glassware. Filed June 4, 1942 by Stanley Home Products, Inc., Westfield, Mass. Claims use since January, 1942.

SOVASUDS—This in bold upper-case letters for water-soluble fluid composition of soapless lathering material for a superficial cleaning of metal, glass, plastics, lacquered or painted or other water resisting surfaces. Filed Dec. 26, 1942 by Socony-Vacuum Co., Inc., New York. Claims use since Nov. 12, 1942.

POLI-WAX—This in bold script lettering for cleaner, wax and polish. Filed June 8, 1942 by Ken-Nite Co., Detroit, Mich. Claims use since Feb. 27, 1939.

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Trade Marks Granted

400,743. Oils, having rust, corrosive and gum dissolving properties, and cleaning properties. Filed by Richard E. Houser, Houston, Texas, Sept. 17, 1942. Serial No. 455,593. Published Jan. 5, 1943. Class 15.

400,761. Soap. Filed by Prince Matchabelli, Inc., New York, Nov. 7, 1942. Serial No. 456,688. Published Jan. 19, 1943. Class 4.

400,830. Brooms. Filed by Stanley Home Products, Inc., Westfield, Mass., Jan. 6, 1942. Serial No.

SARGENT'S DRYER and CHILLING ROLL
One of the latest Sargent installations, a unit capable of delivering 1300 pounds of extremely thin soap chips in 40 feet. Economy of operation and floor space are distinct features of this equipment. Mechanical refinements, compactness and accessibility are inherent characteristics. Write for complete details and specifications.
C. G. SARGENT'S SONS CORPORATION • GRANITEVILLE, MASSACHUSETTS

CROSBY
THE MARK OF QUALITY

PALE WOOD

ROSINS

Soap makers find these Crosby Pale Wood Rosins very valuable in overcoming the current shortage of fats.

All grades available from I to X.

Exceptionally clean and uniform.

Produced under rigid technical control twenty-four hours a day.

CROSBY NAVAL STORES, INC.

PICAYUNE, MISSISSIPPI

450,032. Published June 2, 1942. Class 29.

400,837. Chemical compounds used in servicing power equipment—namely cleaners for engines, heat exchangers, etc. Filed by Maritime Chemical & Repair Corp., Brooklyn, N. Y., April 1, 1942. Serial No. 452,077. Published Jan. 19, 1943. Class 6.

400,838. Dentifrice and mouth powder. Filed by Acme Laboratories, Inc., Chicago, Ill., April 8, 1942. Serial No. 452,209. Published August 11, 1942. Class 6.

400,852. Hand Cleanser. Filed by Irene Blake Cosmetics, Inc., New York, Sept. 17, 1942. Serial No. 455,586. Published Jan. 26, 1943. Class 4.

400,586. Crystals used for removing soot, carbon scale, etc. Filed by Walters "Oxi" Corp., Gary, Ind., Sept. 30, 1942. Serial No. 455,877. Published Jan. 19, 1943. Class 6.

400,868. Cleanser for wood, metals, glass, imitation and real leather, fabrics, porcelain, stone, painted surfaces and linoleum. Filed by Beacon Chemical Corp., Philadelphia, Pa., Oct. 28, 1942. Serial No. 456,486. Published Jan. 26, 1943. Class 4.

400,869. Cosmetic or nail cleansing treatment. Filed by Gypsy Lillard Ager, Peru, Ind., Oct. 29, 1942. Serial No. 456,502. Published Jan. 19, 1943. Class 6.

400,876. Liquid preparation for use in treatment of skin infections. Filed by Herman M. Preacher, doing business as Scott Drug Co., Kingstree, S. C., Nov. 3, 1942. Serial No. 456,630. Published Jan. 19, 1943. Class 6.

400,888. Ointment for treating itching skin, etc. Filed by Ray L. Sawyers, doing business as Bombé Products, Kansas City, Mo., Nov. 12, 1942. Serial No. 456,779. Published Jan. 26, 1943. Class 6.

400,890. Liquid wood preservative used as a fungicide and an insecticide. Filed by Carbolineum Wood Preserving Co., Milwaukee, Wis., Nov. 16, 1942. Serial No. 456,843. Published Jan. 26, 1943. Class 6.

400,897. Preparation for the treatment of athlete's foot and other skin infections. Filed by Duett, Inc., Cincinnati, O., Nov. 20, 1942. Serial No. 456,937. Published Jan. 26, 1943. Class 6.

400,911. Insecticide. Filed by William A. Shull, doing business as The Velvetta Mfg. Co., Philadelphia, Pa., Dec. 2, 1942. Serial No. 457,174. Published Jan. 26, 1943. Class 6.

400,931. Soap. Filed by Catherine K. Gordon, doing business as House of Gordon, Chicago, Ill., Dec. 3, 1941. Serial No. 449,133. Published Feb. 22, 1943. Class 4.

400,934. Dry Cleaning Fluid. Filed by York Pharmacal Co., St. Louis, Mo., April 14, 1942. Serial No. 452,341. Published Feb. 2, 1943. Class 4.

400,963. Ointment for minor cuts and burns, and for cold cream. Filed by John L. Norris, Jr., doing business as Vello Products, Lyndonville, Vt., Oct. 1, 1942. Serial No. 455,889. Published Feb. 2, 1943. Class 6.

400,965. Soap. Filed by Para Ti Corp., New York, Oct. 9, 1942. Serial No. 456,103. Published Feb. 2, 1943. Class 4.

401,044. Powdered hand soap. Filed by Sugar Beet Products Co., Saginaw, Mich., Oct. 26, 1942. Serial No. 456,439. Published Feb. 9, 1943. Class 4.

401,053. Toilet kit containing soap. Filed by Alfred D. McKelvy Co., New York, Nov. 4, 1942. Serial No. 456,639. Published Feb. 9, 1943. Class 4.

401,055. Blocks of natural pumice stone for scraping, scouring and polishing pots, pans, kettles and other metal utensils. Filed by United States Pumice Supply Co., Los Angeles, Calif., Nov. 4, 1942. Serial No. 456,642. Published Feb. 9, 1943. Class 4.

Porto Rican Soap Purchases

The Food Distribution Administration is currently re-examining the policies which have been followed in purchasing soap for shipment to Porto Rico, and has requested an opinion from members of the Soap Advisory Committee as to the best procedure to follow to replace past methods which it is admitted "have not been entirely satisfactory." (Past methods involve shipment of unbranded "Victory" soap. Editor). The following five alternatives have been suggested by the FDA as possibilities for settling the problem of supplying low cost soap to Porto Rico.

1. The purchase of a neutral (such as "Victory") brand of soap on a competitive bid basis to supply all Puerto Rican requirements.
2. The purchase of toilet soap on Government specifications on a competitive bid basis, with any brand being eligible for purchase.
3. The establishment of allocations for soap manufacturers on the basis of past shipments, for example at average requirements for the period 1939-1941. The allotment would be purchased by the Food Distribution Administration at a price sufficiently below the present retail price in Puerto Rico to permit the maintenance of present jobbing dealer and retail prices. Under this alternative each manufacturer would pay the actual transportation cost of his toilet soap to the warehouse in Puerto Rico.
4. The establishment of allocations as in alternative 3. Under this alternative the Food Distribution Administration would negotiate with each manufacturer for the purchase of his allotment on the basis of his cost plus 10 per cent, and the Food Distribution Administration would also pay transportation costs.
5. The establishment of allocations according to the proportions determined under the procedure of alternative 3, but the total allocation to be based on 84 per cent of the annual requirements in accordance with the quotas set by Food Distribution Order No. 42. Each manufacturer would be allowed to ship a 90-day supply under his quota to his primary distributor, monthly quotas could be established for each primary distributor, and the distributors would not be allowed to sell more than their monthly allowances. Any unsold portion of the monthly quota would be automatically cancelled at the end of each month. All jobber, dealer, and consumer prices for the branded soaps would be the same as those now prevailing or as amended from time to time by the Office of Price Administration. The Food Distribution Administration would pay transportation costs in the first instance but would be reimbursed by the manufacturer or distributor. In addition, the Food Distribution Administration would purchase a neutrally branded soap in order to give Puerto Rican consumers an opportunity to buy a satisfactory soap at the lowest possible cost. The Food Distribution Administration would supply each part of the Puerto Rican requirements as would not be taken care of under the limitations described above.

COCOANUT FATTY ACID REPLACEMENTS

by

WOBURN

DEGREASING CO. OF N. J. Harrison, N. J.

Three Blends

To Meet Your Particular Requirements

C — clear, light yellow liquid — Titre °C, 21-25
CH — clear, light liquid — Titre °C, 21-25
CW — clear, White liquid — Titre °C, 11-15

RAW MATERIALS FOR THE SOAP INDUSTRY

WELCH, HOLME & CLARK CO., Inc.
563 GREENWICH STREET ESTABLISHED 1838 NEW YORK CITY

RAW MATERIAL MARKETS

As of April 28, 1943

THE three most important background market developments of the past month dealt with tallow, coconut oil and linseed oil. These new developments, originating in the main from Washington, with the possible exception of the high lauric oils ruling, didn't have too much effect on the market in general. Conditions continue much the same as they have in the past few months, with price ceilings and raw material supply shortages having a most depressing effect on activity.

Oils and Fats

In an effort to free some tallow for smaller consumers, such as manufacturers of metal polishes, chemicals, wire drawing compounds, defoaming compounds, etc., the OPA last month issued a ruling permitting these manufacturers to pay a higher-than-ceiling price for tallow. Formerly, because of the extra effort and trouble entailed by shipments of small lots, tallow producers were said to have been reluctant to sell the above listed users. However, by raising the price as high as the OPA originally did, soapers, to whom tallow must be sold at or below ceilings, were eliminated, competitively, from bidding in the tallow market. Admitting its error, the OPA has revised its ruling to state "only persons who have obtained a priority order or rating from the Food Distribution Administration may pay a premium for tallows and greases."

Last fall soapers were required to sell a portion of their stocks of high lauric acid oils to the Credit Commodity Corporation in order that the government stock pile might be maintained and increased. Now, a ruling has just ben issued which permits soapers who sold oils to the CCC to buy an equal amount back again. Although no reason was given for this move, continuing importation and lack of adequate storage facilities are beliefs held in the trade for the release of some of the oil stocks.

The third background development of the month concerns potash soapers and linseed oil. Potash soapers, not having the facilities for recovering glycerine, have had to turn to fatty acids. However, the earlier fats and oils order gave such a high bonus to users of fatty acids that an overwhelming demand for them was stimulated. This is borne out by the fact that the order recently had to be amended cutting down fatty acid use from 150 to 100 per cent of the previous year's consumption. This move came too late, however, as available stocks had already been bought up. Potash soapers, unable to buy fatty acids, have protested in Washington. They were told to use split linseed oil. Split linseed, of course, is also on the scarce list, and the potash soapers are now asking for straight linseed. So far, their plea has not yet been answered.

The tight situation in tallow continues. If anything, the supply situation has deteriorated further, what with religious holidays reducing production. An off-hand estimate sets tallow production at from 50 to 60 per cent below normal.

The establishment of a ceiling for linseed meal during the past month gave further credence to the possibility that a ceiling on linseed oil may soon be forthcoming. This proposed linseed ceiling report had its repercussions in the market, with a reduction in quotations on futures. Linseed supplies are said currently to be tight.

The report issued by the U. S. Department of Agriculture that factory production of primary fats and oils totaled 848 million pounds in January, 58 million pounds less than in December, speaks for itself. And although factory and warehouse stocks of primary fats and oils totaling 2,022 million pounds on January 31, were about 1 per cent greater than a month earlier, the substantial decline in stocks of inedible tallow gave particular concern to soap makers. Government purchases of fats and oils through the Food Distribution Administration in the four weeks ending February 27, totaled 71 million pounds compared with 105 million pounds in January, the New York Produce Exchange reported in its April 7, market review.

Cresol Price Ruling

Imported finished tar acids, including ortho-cresols and meta-cresols, were brought under the specific regulation controlling prices of imported cresylic acid, late last month by the OPA. Simultaneously the OPA changed the regulations concerning the sale of imported ADF cresylic acid and set up a method for controlling prices in the event a government agency, such as the Defense Supplies Corporation, becomes the sole importer for these chemicals. Although present importer's maximum prices for duty-free cresylic acid are retained by the action, the OPA placed a total mark-up provision over resellers' prices to tighten control over prices at distribution level.

Essential Oils

The market for essential oils and aromatic chemicals has been fairly quiet for the past month with few price changes. As in other raw material groups, the shortened supply situation here is a definite factor in market operations. The latest report regarding availability of supplies is that eucalyptus shipments from Australia will be curtailed sharply in the near future.

ISCO

In V *1943*

Caustic Potash

FLAKE • SOLID • GRANULAR • BROKEN
CRUSHED • WALNUT (88-92% KOH)
Containers of various capacities

Caustic Soda

SOLID 76% • CRYSTALS 76% • FLAKES 76%
LIQUID 50% Solution

Carbonate of Potash

CALCINED 98-100% K_2CO_3 •
HYDRATED 83-85% K_2CO_3
LIQUID 47-48% K_2CO_3

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and EXCELLENT SUBSTITUTES
to replace those now off the
market or nearly unobtainable

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BENTONITE
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Schundler Bentonite, known as the "clay of 1,000 uses" is ready for immediate shipment without priority rating. It is plentiful and is not on the list of critical materials. Prompt shipments are being made without "red tape."

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As a "substitute" or alternate for other materials—which may be scarce now—Schundler Bentonite is an ideal material used either alone or in combination. Investigate its application to your problem today.

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A few typical uses of Schundler Bentonite are: Purification of water supplies . . . Insulation blocks, plasters and cements . . . In Ceramic bodies to improve the green strength of lean clays and the quality of fired products . . . In Rubber latex adhesives . . . Emulsions and aqueous suspensions of bitumens . . . Compounds for machining and drawing metals . . . Polishes and cleaners . . . Adhesives and sizings in combination with starches . . . Pharmaceuticals and cosmetics . . . Paper manufacture to inhibit gumming of screens . . . Fluxing compounds for arc welding . . . Coating walls of asphalt containers.

TECHNICAL SERVICE INCLUDED

Schundler technical service goes with every order for Schundler Bentonite . . . a service backed by the largest scientific staff working in the best equipped laboratory in the Bentonite industry. Your inquiries are invited.

F. E. SCHUNDLER & CO., INC.
528 RAILROAD ST.
JOLIET, ILLINOIS

Schundler

RAW MATERIAL PRICES

(As of April 27, 1943)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .08½	$ .09
Acid, Boric, bbls., 99½%	ton	109.00	131.00
Cresylic, drums	gal.	.81	.83
Low boiling grade	gal.	.81	.83
Muriatic, C. P., carboys	lb.	.06½	—
Oxalic, bbls.	lb.	.11¼	.12½
Alcohol, Ethyl, drums	gal.	11.90	12.01
Complete Denat., SD1, dms., ex.	gal.	.62	.67
Alum. Potash lump, bbls.	lb.	.04½	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., drums	lb.	.08½	.09¼
Bentonite	ton	11.00	16.00
Bleaching Powder, drums	100 lb.	2.50	3.60
Borax, pd., bbls., bags	ton	50.00	66.00
Carbon Tetrachloride, car lots	gal.	.73	1.17
L. C. L.	gal.	.80	1.27
Cresol, U.S.P., drums	lb.	.10¾	.11¼
Cresote Oil	gal.	.141	—
Feldspar, works	ton	17.50	20.50
Formaldehyde, bbls.	lb.	.05½	.06¼
Fullers Earth	ton	8.50	15.00
Glycerine, C.P., drums	lb.	.18¾	.19¼
Dynamite, drums	lb.	.18¼	.18¾
Saponification, drums	lb.	.12¾	.14¾
Soap lye, drums	lb.	.11½	—
Lanolin, U.S.P., hydrous, drums	lb.	.29	.32
Anhydrous, drums	lb.	.30	.33
Lime, live, bbls.	ton	6.25	16.00
Mercury Bichloride, drums	lb.	2.24	2.39
Naphthalene, ref. flakes, bbls.	lb.	.08	.08½
Orthodichlorbenzene	lb.	.06	.08½
Paradichlorbenzene, drums	lb.	.11	.15
Petrolatum, bbls. (as to color)	lb.	.03⅜	.07¾
Phenol (Carbolic Acid) drums	lb.	.10½	.11¼
Pine Oil, drums	gal.	.73	—
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.03¼	.03½
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03½
Pumice Stone, coarse	lb.	.03⅞	.04¼
Rosins (net. wt., ex dock, New York)—			
Grade D to H	100 lb.	3.57	4.15
Grade I to N	100 lb.	4.15	4.37
Grade WG to X	100 lb.	4.98	5.26
Rotten Stone, dom., bags	lb.	.0128	.019
Silica	ton	17.00	27.00
Soaps—			
Tallow Chip, 88%	lb.	.11	.11⅝
Powder, 92%	lb.	.11⅜	.12
Powdered, White Neutral	lb.	.25½	.42
Olive Oil Paste	lb.	.40	—
Shampoo Base	lb.	.18	.20
Liquid Concentrate, 30-32%	gal.	.75	.79
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.15	3.25
Car lots, in bulk	100 lb.	.90	—
Soda Caustic, cont., wks., solid	100 lb.	2.30	3.15
Flake	100 lb.	2.70	3.55
Liquid, tanks, 47-49%	100 lb.	1.92½	1.95
Soda Sal., bbls.	100 lb.	1.20	1.40
Sodium Chloride (Salt)	ton	14.20	18.00
Sodium Fluoride, bbls.	lb.	.08	.09
Sodium Bisulfate	100 lb.	2.25	2.50
Sodium Metasilicate, anhyd.	100 lb.	4.00	5.30
Granulated	100 lb.	2.50	3.55
Sodium Pyrophosphate	100 lb.	5.28	6.60
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.27½	.33½
Triethanolamine	lb.	.19	.20
Trisodium Phosphate, bags, bbls.	100 lb.	2.70	4.15

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.1110	Nom.
Castor, No. 1, bbls.	lb.	.15¼	.16
No. 3, bbls.	lb.	.13¾	.14¼
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	No Prices	
Tanks, Pacific Coast, futures	lb.	No Prices	
Copra, bulk, coast	lb.	No Prices	
Corn, tanks, West	lb.	.12¾	.15½
Cottonseed, crude, tanks, mill	lb.	.12¾	—
PSY, futures	lb.	.13⅞	.14⅛
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.14	.14½
Coconut Oil, tanks, Twitchell, Chi.	lb	.17½	.18
Cotton Oil, tanks, Chicago	lb.	.14	.14½
Settled soap stock, Chicago	lb.	.03⅞	.04
Boiled soap stock, 65%, Chi.	lb.	.04⅞	.05
Foots, 50%, Chicago	lb.	.03½	.03¾
Castor Oil, split, tanks, N. Y.	lb.	.20¾	.21¼
Linseed Oil, split, tanks, N. Y.	lb.	.18½	—
Distilled	lb.	.21	.21½
Myristic acid, distilled, tanks, N.Y.	lb.	.19	.19½
Palm Oil, white tanks, N. Y.	lb.	No Prices	
Single distilled	lb.	No Prices	
Soybean Oil, split, tanks, N. Y.	lb.	.1175	—
Distilled	lb.	.1389	.1400
Red Oils, bbls., dist. or sapon	lb.	.1325	.1425
Tanks	lb.	.12½	—
Stearic Acid, saponif.			
Double pressed	lb.	.15	.16
Triple pressed	lb.	.18	.19
Greases, choice white, tanks	lb.	.08⅞	—
Yellow	lb.	.02¼	—
Lard, city, tubs	lb.	.1380	—
Linseed, raw, bbl.	lb.	.1560	.1640
Tanks, raw	lb.	.1520	.1540
Olive, denatured, bbls., N. Y.	gal.	4.10	4.20
Foots, bbls., N. Y.	lb.	.19	Nom.
Palm, Sumatra, cif. New York, tanks	lb.	No Prices	
African, tanks, ex. ship	lb.	.08¼	Nom.
Palm, kernel	lb.	No Prices	
Peanut, crude, tanks, mill	lb.	.13	Nom.
Soya Bean, domestic, tanks, crude	lb.	.11¾	Nom.
Stearin, oleo, bbls.	lb.	.1054	—
Tallow, special, f.o.b. N. Y.	lb.	.08½	—
City, ex. loose, f.o.b. N. Y.	lb.	.08⅝	—
Teaseed Oil, crude	lb.	.29	Nom.

A PUMICE TO MEET EVERY NEED

Not until Valencia — the standard of American Pumice— was discovered at Grants, New Mexico, was it thought that a domestic pumice could match the quality of imported Italian Pumice. This inexhaustible deposit at Grants is true pumice stone and not a volcanic ash. It is physically and chemically equal in every respect to the now unobtainable Italian Pumice. • The Valencia plant's output of grades for every need is rigidly under control for particle size, purity, weight and color.

Check this table comparing Valencia with the highest grade of imported Italian Pumice. See for yourself that Valencia is truly the standard of American Pumice.

	American Pulverized Per Cent	Italian Select Per Cent
Silica	72.90	73.24
Alumina	11.28	10.61
Iron Oxide	.86	1.57
Titanium Oxide	.06	.10
Calcium Oxide	.80	1.10
Magnesium Oxide	.36	.40
Soda	3.64	3.03
Potash	4.38	5.58
Sulphuric Anhydride	.03	.05
Loss on ignition	5.20	4.04

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Manufacturers Since 1837

A. GROSS & CO.

295 Madison Avenue, New York, N. Y.

Representatives in Various Cities

(As of April 27, 1943)

Essential Oils

Almond, Bitter, Artificial	lb.	$3.50	$3.75
Bitter, F.F.P.A.	lb.	5.25	5.50
Sweet, cans	lb.	1.85	1.95
Anise, cans, U.S.P.	lb.	3.25	3.60
Bay, 55-66% phenols, cans	lb.	1.60	2.10
Bergamot, coppers	lb.	32.00	Nom.
Artificial	lb.	2.25	6.50
Birch Tar, rect., cans	lb.	—	—
Crude, cans	lb.	—	—
Bois de Rose, Brazilian	lb.	4.75	5.00
Cayenne	lb.	—	—
Cade (juniper tar), drums	lb.	1.50	Nom.
Cajeput, tech., drums	lb.	—	2.10
Calamus, cans	lb.	—	—
Camphor, Sassy, drums	lb.	—	—
White, drums	lb.	—	—
Cananga, native, cans	lb.	17.00	17.50
Rectified, cans	lb.	18.25	20.00
Cassia, Redistilled, U.S.P.	lb.	10.50	12.00
Cedar Leaf, cans	lb.	1.05	1.35
Cedar Wood, light, drums	lb.	.75	1.00
Citronella, Java, drums	lb.	—	—
Citronella, Ceylon, drums	lb.	1.20	1.40
Clove, U.S.P., cans	lb.	1.80	2.00
Eucalyptus, Austl., U.S.P., cans	lb.	1.30	1.50
Fennel, sweet, cans	lb.	3.60	—
Geranium, African, cans	lb.	30.00	Nom.
Bourbon, cans	lb.	24.00	—
Turkish (Palmarosa)	lb.	5.25	5.50
Hemlock, cans	lb.	1.20	1.25
Lavender, 30-32% ester, cans	lb.	9.00	9.25
Spike, Spanish, cans	lb.	4.25	4.35
Lemon, Ital., U.S.P.	lb.	—	Nom.
Cal.	lb.	3.00	—
Lemongrass, native, cans	lb.	1.95	2.25
Linaloe, Mex., cases	lb.	4.25	—
Nutmeg, U.S.P., cans	lb.	5.25	5.50
Orange, Sweet, W. Ind., cans	lb.	6.00	6.25
Italian cop	lb.	8.00	Nom.
Distilled	lb.	1.00	—
California, expressed	lb.	1.60	—
Origanum, cans, tech.	lb.	2.75	2.90
Patchouli	lb.	8.00	8.50
Pennyroyal, dom.	lb.	—	—
Imported	lb.	3.15	3.25
Peppermint, nat., cans	lb.	5.50	5.75
Redis., U.S.P., cans	lb.	6.00	6.25
Petitgrain, S. A., cans	lb.	1.95	2.20
Pine Needle, Siberian	lb.	3.00	3.25
Rosemary, Spanish, cans	lb.	2.25	2.30
drums	lb.	2.10	2.15
Sandalwood, dom., dist., U.S.P.	lb.	5.85	6.25
Sassafras, U.S.P.	lb.	2.00	2.20
Artificial, drums	lb.	2.00	—
Spearmint, U.S.P.	lb.	—	3.40
Thyme, red, N. F.	lb.	3.25	3.50
White, N. F.	lb.	3.50	3.75
Vetiver, Java	lb.	42.00	50.00
Ylang Ylang, Bourbon	lb.	—	—

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.55	$1.60
Amyl Cinnamic Aldehyde	lb.	—	—
Anethol	lb.	2.25	2.40
Benzaldehyde, tech.	lb.	.45	.55
N. F. VI	lb.	.85	2.75
Benzyl, Acetate	lb.	.59	Nom.
Alcohol	lb.	.63	.75
Citral	lb.	4.75	5.00
Citronellal	lb.	2.75	3.25
Citronellol	lb.	7.00	7.25
Citronellyl Acetate	lb.	—	—
Coumarin	lb.	2.75	3.25
Diphenyl oxide	lb.	.43	.50
Eucalyptol, U.S.P.	lb.	2.75	2.90
Eugenol, U.S.P.	lb.	2.75	2.80
Geraniol, Soap	lb.	2.50	3.00
Other grades	lb.	3.50	4.00
Geranyl Acetate	lb.	—	—
Heliotropin	lb.	5.25	Nom.
Hydroxycitronellal	lb.	7.25	8.75
Indol, C. P.	lb.	28.00	30.00
Ionone	lb.	2.75	3.95
Isoborneol	lb.	.81	.90
Iso-bornyl acetate	lb.	.80	.95
Iso-Eugenol	lb.	—	—
Linolool	lb.	6.75	7.00
Linalyl Acetate	lb.	5.50	7.25
Menthol, natural	lb.	—	—
Synthetic, U.S.P.	lb.	13.00	19.00
Methyl Acetophenone	lb.	—	—
Anthranilate	lb.	2.20	2.35
Paracresol	lb.	—	—
Salicylate, U.S.P.	lb.	.35	.40
Musk Ambrette	lb.	4.00	4.45
Ketone	lb.	4.15	4.60
Xylol	lb.	1.40	1.80
Phenylacetaldehyde	lb.	5.00	6.00
Phenylacetic Acid	lb.	1.85	1.90
Phenylethyl Alcohol	lb.	2.10	2.50
Rhodinol	lb.	—	—
Safrol	lb.	2.25	2.45
Terpineol, C.P., dra.	lb.	.40	—
Cans	lb.	.43	—
Terpinyl Acetate, 25 lb. cans	lb.	.87	—
Thymol, U.S.P.	lb.	3.00	Nom.
Vanillin, U.S.P.	lb.	2.35	2.75
Yara Yara	lb.	1.80	1.85

Insecticide Materials

Insect Powder, bbls.	lb.	.29	.30
Pyrethrum Extract			
20 to 1	gal.	5.90	6.00
30 to 1	gal.	8.85	9.00
Derris, powder—4%	lb.	.31	—
Derris, powder—5%	lb.	.35	—
Cube, powder—4%	lb.	.31	—
Cube, powder—5%	lb.	.35	—
Squill, red, dried	lb.	.85	1.00

Waxes

Bees, white	lb.	.57	.63
African, bgs.	lb.	.3750	—
Refined, yel.	lb.	.5250	.6050
Candelilla, bgs. (crude)	lb.	.38	—
Carnauba, No. 1, yellow	lb.	.8325	.8925
No. 2, N. C.	lb.	.7575	.8175
No. 3, Chalky	lb.	.7125	.7725
Ceresin, yellow	lb.	.13½	.18
Montan Wax, bags	lb.	.45	.46
Paraffin, ref., 125-130	lb.	.0520	.0560

IN the Oil and Soap Industry, NUCHAR Active Carbon is being used to economically remove off colors (reds, greens, etc.) and impurities (soluble soaps, resins, phosphetids, traces of sulphur or metals, etc.) from oils, soap stocks, lard, glycerine and related products.

Tests in our laboratories indicate that NUCHAR Active Carbon has practically unlimited possibilities for the economical removal of impurities. To anyone interested in improving methods of processing by means of Active Carbon, the services of our Carbon Research Laboratory are available at any time, without obligation.

These oils, fats and waxes are being treated with . . . NUCHAR Active Carbon to remove odor, color or taste:

Beeswax
Cocoa Butter
Gelatin, Animal
Glue
Grease
Kerosene
Lard

Oil
- Castor
- Cocoanut, Crude
- Cocoanut, Refined
- Corn

Oil (cont.)
- Cottonseed
- Fish
- Linseed
- Olive
- Palm
- Palm Kernel
- Peanut
- Petroleum, Light Fraction
- Rapeseed
- Sesame
- Soya Bean

Oil (cont.)
- Sunflower
- Teaseed

Tallow
- Edible
- Inedible

Waxes
- Beeswax
- Candelilla
- Carnauba
- Ozokerite
- Paraffin

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PRODUCTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, Oil & Fat Industries.

Small Plant Glycerine Recovery

IN glycerine recovery, the small soap maker is always at a disadvantage compared with the large manufacturer. The process and equipment discussed here are for the small-scale soap plant following conventional procedures. These consist of treatment of the roughly purified lyes from the soapery with acid and coagulant, filtration, evaporation in double-effect evaporator, settling of the crude separation and removal of the salt.

In the following list of tanks required, items marked with an asterisk are, although desirable, less essential than the others. All may be of mild steel, except those for the first lye treatment. The latter if made of mild steel, should be lined with lead. All except the crude storage tanks may be open; the form is for the most part immaterial:

1. *Tanks may be provided for storage of spent lye, skimmed, or preferably roughly purified with fatty acids in the soapery. In the event of a bad breakdown, it is almost essential to be able to store all the lye made in the soap plant for some days. Or it may be desirable to store quantities of lye sufficient to keep the glycerine plant going for a few days on end, and then to cease operations completely.

2. The tanks for the first treatment are preferably at least two, so that the contents of one can be passing through the filters while the other is filling and being treated. The total capacity should be about a day's output of lyes from the kettle room.

3. Tanks for the second treatment may be smaller, provided there is ample storage for finished liquor, i.e. the filtrate from the second treatment, and that the filter press is large enough to filter liquor as fast as in the first treatment.

4. Feed tanks for the evaporator should have a capacity for 12 hours or so. These are often placed in the roof, so as to be able to fill the evaporator by gravity before evacuation.

5. *A small emergency tank capable of holding a full charge from the first evaporator vessel is desirable.

6. One or two similar tanks for holding crude glycerine, or partially finished liquor from the second vessel, should be provided.

7. Crude storage tanks are preferably covered to prevent absorption of moisture from freely circulating air. One should be able to store several weeks' make of crude. The bottoms of these tanks should be a few feet above the ground to enable the glycerine to be racked off into drums.

8. *A small tank is desirable in which salt from the evaporator is mixed with purified lye to remove the greater part of its glycerine.

Types of Pumps

1. The number of pumps to raise the crude glycerine or lyes to a higher level depends on the layout of the plant. One is generally needed for pumping spent lyes to the first treatment tank; another for raising the filtrate from the second treatment of the feed tanks. Ordinary motor-driven centrifugal pumps are cheap and satisfactory. A similar type is suitable if it is required in the process of removing glycerine from the salt to pump the sludge to a higher level.

2. A pump is required for each treatment for pumping treated liquors through the filter presses. As the resistance to the flow of the liquid is at first quite low but rises greatly as the press fills, steam is generally better than an electric drive.

3. A good make of rotary pump is best for pumping crude to the storage tanks.

4. If a jet condenser is used with the evaporator, a suitable pump is likely to be included in the outfit to pump cooling water to the condenser. Surface condensers require much more cooling water for a unit quantity of water vapor. Many factors affect the quantity of water required and hence the size of the pump, such as the thickness of the tubes and the temperatures of the cooling-water supply. These figures must be worked out for each individual case. Such a pump will presumably be steam driven and should be well up to its maximum load.

5. A vacuum pump is needed for the evaporator.

6. A motor driven air pump or blower is needed to supply air at a pressure of about 10 pounds to agitate the liquids under treatment.

Filter Presses

These should be of good make with recessed plates to form a cake not over one inch thick. The washing type is desirable, as something like one-half of the glycerine originally left in the cake can economically be removed by washing. This quantity mounts up in the course of a year. The larger the plates, within reason, the more economically the cloth is used; 30-inch plates have proved satisfactory. The preliminary treatment of the lyes with fatty acids appears to remove practically all of the soap and certain other impurities; when this system is in use the amount of press cake formed is said to be reduced to half the normal amount with a corresponding reduction in the filtering area needed. The second treatment produces much less precipitate than the first. Only a half to a third of the filtering area is needed.

The Evaporator

In any but a large plant the cost of two evaporators may be considered prohibitive. When possible, it is of advantage, however, to have two similar evaporators working out of step. In practice triple-effect evaporators have been found to require more attention and much greater care in operation than double-effect evaporators. The latter appear to be best for this particular purpose.

Conditions in the individual plant will determine the desirability of employing a surface or a jet condenser. In favor of the surface condenser is the fact that a portion can be used for preliminary warming up of the lyes, and if the liquor boils over, the glycerine may be recovered. It also provides a further supply of warm distilled water. Against the surface condenser are the factors of more expensive construction, use of more water and tendency of tubes to become fouled.

As to tube construction, brass is generally worth the extra cost although in much pre-war construction steel was often supplied because of cheapness. (The highest priorities would be needed for either, in the United States under present conditions.—Ed. Note.) The design should allow for easy scaling of tubes and plugging of defective tubes. In some types of British evaporators the bulk of the tubes are readily replaced, but some few can only be reached by dismantling. Better design would avoid such problems.

Salt Removal

The greater part of the salt in the lye is thrown out of solution during concentration. It must not be allowed to accumulate, but must be removed either continuously or in small quantities at intervals. When emptying the usual salt boxes, there is normally more liquor than salt, and the liquor may contain anything from 10 to 80 per cent of glycerine. One method of recovery is to discharge the salt mixture directly into a centrifugal separator, which will remove most of the liquor in a minute or two. The salt may then be sprayed with small quantities of purified lye, reducing the residual glycerine content to one per cent or less. The liquors draining from the centrifuge are returned to the second vessel of the evaporator.

An alternative method consists in discharging the salt mixture from the boxes into a tank immediately below, in which it is agitated with enough purified lye to make an easily flowing sludge. This is pumped to the centrifuges which may discharge either into tanks in which the salt is converted into brine, or into trucks or wagons.

Another rather questionable procedure is to remove the liquor from the salt while still in the salt box by expelling it with steam through a filter plate at the bottom. If such an arrangement is contemplated, it would be well to make certain that the evaporator designer can guarantee removal of glycerine to below one per cent.

Problems of Intermittent Operation

One of the principal disadvantages of the small manufacturer in efficient operation of a glycerin recovery plant is the difficulty of operating on a continuous basis. Interruptions to such a process as the manufacture of crude glycerin are of course highly undesirable. If necessary, the preparation of a sufficient quantity of lye in eight hours to keep the evaporator going the entire twenty-four hours is possible, but all the plant required for this purpose would have to be of capacity triple that of the continuous plant.

With operation on an intermittent basis, considerable time is lost in starting up the plant and it is likely that the wear and tear on equipment will be greater. Though one might aim at getting one batch of crude of normal size finished in the day, it is hard to see, bearing in mind the variability in strength of the spent lyes, how it would be possible to be certain of getting this done in any definite number of hours. Such intermittent operation is clearly far from satisfactory, yet operation of a small plant on a continuous basis obviously entails a disproportionate labor cost, since even a small plant would require three shifts of two employees each.

Correct kettle room practice will be found to have an important bearing on good glycerin yields. To begin with, it is important to secure complete saponification on the first change. Any fat left to be saponified at a later change either yields less of its glycerin to the lyes or requires more lye to remove the correct amount.

Good graining is also essential if good yields are to be obtained without forming excessive amounts of lye. A good soap boiler should be able to produce curds never below about 56 per cent fatty acids, and averaging about 58 per cent. It is naturally of equal importance to give the kettle ample opportunity to settle out all the lye possible, and when running off the latter to leave the absolute minimum in the kettle.

Probably no single factor has a more detrimental effect on glycerin recovery than the leaving of too much lye in the kettle, from overgraining or otherwise.

N. G. Weir. *Soap, Perfumery & Cosmetics 16*, 40-42, 92-93, (1943).

Soap Equipment Trend

MANY changes have been made in recent years in some departments of English soap manufacture, while in others the equipment does not differ essentially from traditional types. The only appreciable difference in soap frames today is the heavier type of design, which is purposely encouraged to forestall bulging as far as possible. Although hand-operated slab-cutting machines are still in use, bars and cakes in the large factories are dealt with automatically. After several slabs have been simultaneously cut by passing through the first wire frame, the table upon which they are laid is automatically retracted and passed through a second wire frame, thus parting them into cakes. Another type of machine is used for dividing soap blocks on a similar principle into slabs or bars in the first operation, and bars and cakes in the second, using both vertical and horizontal wires.

Improvements in chipping machines are concerned chiefly with dealing with soft soaps which in the ordinary way clog the simpler types of machine formerly used. Reciprocating mechanism is one of the latest developments. Although an improved machine can simultaneously cut eight bars into film ribbons, using a horizontal knife disc, the rugged design of the reciprocating outfit, which is claimed to be free from vibration, represses a greater advance. With soap bars approximating three inches in thickness, absolute uniformity is obtained with very thin shavings. The fine nature of the thin slices aids rapid drying. The reciprocating soap-chipping machine has a power consumption of 1½ horsepower and produces about 1,000 pounds of chips per hour.

In most modern factories today, however, chip production no longer depends on slabs and bars. Cylinder dryers, consisting mainly of two revolving cylinders heated by steam or gas, equipped with scrapers, are used, upon which the molten soap is directly run. A cooling device in the form of two water-cooled roller pairs arranged on either side of the main cylinders, is employed.

The liquid soap runs from tank or crutcher onto the cylinders, rotating with them and losing a part of its moisture content, then is lifted off by the scrapers and descends on to the cooling rolls in the form of chips. Regulation of the extent of drying is done by changing the steam pressure, varying the thickness of the soap layer, and by controlling the speed at which the cylinders are rotated. Soap adapted for fine milling is produced at approximately 8 r.p.m. with a steam pressure of 25 pounds per square inch; at 28 pounds per square inch the material is marketed under the category of soap flakes, and at 35 pounds per square inch anhydrous soap is obtained. The last named is suitable for reduction to fine powder for the preparation of shaving soap and soap powders.

Variations in the design of different makes of drying cabinets are mostly ones of practical detail. Reference should be made to one of the latest designs of cabinet dryers at present used for chemical products, but which is being considered for soap manufacture. This is the scoop dryer which is equipped with a series of scoops which scrape, turn over and drop the mass during heating. This is claimed to give a very rapid rate of output.

A further type of base-soap cooling and drying outfit substitutes zinc-coated woven wire grids for the tin steel rod fabric. These grids are drawn by chains at the sides of the plant. The advantage claimed is that a much smaller space is required, since both strands of the belt may be charged with soap shavings. As the flakes descend on the trays in wavy ridges it is possible to operate with a lower degree of drying.

In studying the practical troubles with soap presses, it should be noted how infrequently a perfectly clean cake is formed. This did much to prevent the all-automatic type of presses from becoming thoroughly popular. There has been a tendency to revert to presses of the semi-automatic kind, but on improved lines. In one of the large types of this machine, cakes about 4 x 3.2 x 2.2 inches are claimed to be turned out at the rate of 160 per minute. A safety device prevents the press from working unless both hands of the operator rest upon the lateral levers supplied.

With respect to multi-roll soap mills, in which perfume and coloring matter are added to the semi-dried shavings, it has been recommended to employ a preliminary unit in the form of a chip mixer to facilitate mixing and milling. The multi-roll mill is then employed so that by having a sufficient number of combined units, completely uniform consistency is obtained in one passage through the machine. The more elaborate units are equipped with cutters to form them into soap-flake rolls. Cut flakes are simultaneously produced which are transparent, due to the water cooling, and are given any degree of thickness down to a tissue film. Efforts have been made in some large factories to introduce the photo-electric control cell in order to aid rapid production and eliminate human judgment as far as possible. G. C. Downie. *Manufacturing Chemist & Manufacturing Perfumer* 14, 12-13 (1943).

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Abrasive Scouring Powder

A substantially noncaking abrasive scouring powder contains soap, a siliceous abrasive, volcanic ash, tripoli, feldspar, pumice, and an alkali metal carbonate, bicarbonate, borate, silicate or phosphate. When normally mixed in technically dry powdered form and subjected to atmospheric conditions of relatively high humidity and temperature, the abrasive and salt form a relatively hard set mass or cake. To counteract such cake-forming, 0.1-5 per cent of bentonite is added. From 1 to 4 per cent of tetrasodium pyrophosphate may also be incorporated as a caking preventive, in addition to the bentonite. Paul W. Soderberg, to the J. B. Ford Co. U. S. Patent No. 2,296,689-90.

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Oil Chemists To Meet May 12-14

THE 34th annual meeting of the American Oil Chemists' Society will be held in New Orleans, May 12-14, with Dr. K. S. Markley as general chairman of the local committee in charge. Morning and afternoon business sessions will be held on all three days of the meeting, the convention closing with a dinner Friday evening, May 14. Of the papers scheduled, the one of most direct interest to soap manufacturers is "The Detergent Properties of Bactericidal Fatty Acid Derivatives" by A. K. Epstein, M. Katzman and S. Epstein. Other papers tentatively scheduled for various sessions include the following:

"Some Factors Pertaining to Packaging Shortening in Glass," A. R. Gudheim.

"A Cocoa Butter Substitute from Cottonseed Oil," E. A. Kraemer and A. E. Bailey.

"A Test for Color Readers," P. Thomson.

"A Comparative Study of the Influence of Various Liquid and Solid Vegetable Shortenings Upon Doughnut Quality," S. W. Arenson and E. G. Neyl.

"Some Physiological Changes which Occur in Cottonseed During Storage," A. M. Altschul, M. L. Karon and Lillian Kyame.

"A Preliminary Report on a Pilot-Plant Test of the Treatment of Moist Cottonseed on its Storage Properties," A. M. Altschul, M. L. Karon and Lillian Kyame.

"The Stability of Molecularly Distilled Fractions of Peanut Oil," A. E. Bailey, G. D. Oliver, W. S. Singleton and G. S. Fisher.

"Effect of Various Metallic Salts on the Tinning Properties of Palm Oil and Hydrogenated Cottonseed Oil," S. T. Bauer and V. Gastinel. Jr.

"A New Pigment from Cottonseed," Charlotte H. Boatner.

"Preparation and Analysis of Peanuts," C. H. Cox.

"Solubility of Peanut Protein," T. D. Fontaine and Carolyn Samules.

"Modification of the Swift Stability Test," R. Riemenschneider, R. M. Speck, and J. Turer.

Spray-dried Sulfates

An aqueous solution of a capillary-active compound such as sodium alkyl sulfate containing alcohol, is heated to form a liquid-vapor mixture, and atomized at a velocity of 100 m./sec. into a chamber to separate the vapors and liquid without substantial foaming. A concentrated solution, and alcohol containing water vapor are withdrawn. The capillary-active substance is recovered from the concentrated solution by spray drying. Willem J. D. van Dijck and Johann A. Sandmann. Canadian Patent No. 409,249.

Wetting Agents in Medicine

Excellent clinical results in the treatment of a serious chest infection have been achieved by a combination of the disinfectant azochloramide, and the synthetic wetting agent, sodium myristyl sulfate. The effectiveness of the wetting agents against bacteria or germs is due to their property of concentrating around the bacterial cells and bringing about a disturbance of the electric charge distribution on the cell wall. The wetting and penetrating properties of these soap substitutes can be used in the treatment of infected wounds by combining them with antiseptics. *Science Supplement* 97, March, 1943.

Mixed Solvents for Soaps

Soaps are soluble in mixtures containing a polyhydric alcohol, a monohydric alcohol and (or) a hydrocarbon or chlorinated hydrocarbon. The solubility of sodium stearate was determined at 25° C. in various mixtures of ethylene glycol with different monohydric alcohols; of butyl alcohol with different glycols and glycerine; of chloroform with glycols, and of acetone with ethylene glycol.

A mixture of 56 per cent of glycerine and 44 of butyl alcohol was found to be the most effective solvent. For the same glycol the solubility of soap increases with increase in the molecular weight of the alcohol; the primary alcohol is far more powerful than the secondary. For the same glycol the percentage of different alcohols required to produce maximum solubility is between 40 and 45 except for methanol, which was 60 per cent. There is no simple molecular ratio of the two solvents at the maximum points. In order for a single solvent or mixture to be a good solvent for a soap it must have two adjacent hydroxy groups and a hydrocarbon-dissolving portion. S. R. Palit. *J. Indian Chem. Soc.* 19, 271-85; through Chem. Abs.

Catalyst Activity

The usual methods for evaluating the activity of nickel catalysts for oil hydrogenation by the melting point of the hardened oil and from the decrease in iodine numbers are not satisfactory. The method proposed is based on the determination of the velocity constant of hydrogenation of the oil, which is determined from the rate of decrease of the iodine number. An equation is given to express the relationship. A. A. Zinovev. Trudy Krasnodar. Khim.-Tekh. Inst. Zhirovoi Prom. 1940, No. 8, 103-12; through Chem. Abs.

Argemone Oil

Oil from the Mexican prickly poppy (*Argemone mexicana*) seed was found to contain the following percentages of fatty acids: Myristic 0.3, palmitic 11.1, stearic 1.8, lignoceric 0.1, hexadecenoic 0.8, oleic 21.3, and linoleic 58.6. Recinoleic and linolenic acids, which had been reported by other investigators as constituents of this oil, were not found in the oil from Mexican seed. The oil is poisonous but could probably be used by the soapmaker. G. S. Jamieson and W. Gordon Rose. *Oil & Soap* 20, 33-5 (1943).

To Measure Oil in Solvent

Benzine and other organic solvents used for the extraction of oils differ from vegetable oils in the values for their dielectric constants. This provides a method for determining the concentration of residual oil in the solvent. The dielectric constant is measured by a heterodyne method. Experiments on sunflowerseed, castor and cottonseed oils indicate that it is possible to determine the content of oil in benzine solutions within 0.1 per cent in 2-3 minutes, as compared with 3-4 hours by the gravimetric method.

This can be used for the production control in oil-extraction

plants. It can also be used for the investigation and control of processes of polymerization, drying, water absorption, aging of colloids, determination of the stability of emulsions and suspensions, etc. V. M. Kopeikovskii. Khim. Referat. Zhur. 1940, No. 10-11, 124; through *Chem. Abs.*

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Iodine Number

The method of Codex for the determination of iodine number is a modification of that of Hanus. A bromine-iodine solution is used instead of a chlorine-iodine solution. The time of reaction is reduced to 20 minutes. Pierre Mesnard. Bull. trav. soc. pharm. Bordeaux 78, 20; through Chem. Abs.

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Fatty Acid Separation

An apparatus and a procedure are described for separating materials of different melting points such as oleic and stearic acids. The mixture is maintained in a liquid condition and emulsified with an inert gas such as air, and a nonreactive liquid such as water. The emulsion is cooled to a temperature such that one of the fractions is solidified. The solidified material is separated from the unsolidified by centrifuging or by filtration. August H. Schutte. U. S. Patent No. 2,296,456.

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Glass Cleaning Fluid

A glass cleaner contains water, 20-30 per cent of isopropyl alcohol, and about 0.1 per cent of an organic acid to give a pH of 2-3. The composition is free from haze- and film-forming constituents and can be readily wiped dry from the glass without leaving any observable residue. M. T. Flaxman, to Union Oil Co. of California. Canadian Patent No. 411,330.

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Sour in Bluing

Sour improves the affinity of cotton for bluing and intensifies the tinting power of the blue solution; sour increases the mileage of the blue. Proper souring also tends to even up bluing in the load. The shade is varied to some extent by different sours and the concentration of sour used. Geo. J. Babyok. *The Laundryman* 9, No. 3, 10 (1943).

Low-Titer Soap Spec.

A new federal specification for low-titer soap for low-temperature washing (P-S-600) has just been approved by the Director of Procurement and will shortly be put into effect. Bar, granular, powdered and flake types are covered. The specification has the usual provisions covering acceptability of color, odor, etc.

Detail requirements are illustrated in the accompanying table. The percentage of matter volatile at 105° C. is to be computed on the soap as received. The percentages of all other constituents is calculated on the basis of material containing 35 per cent of volatile matter for bar soap or 7 per cent of volatile matter for the other types. Percentages are by weight.

	Type I		Type II	
	Max.	Min.	Max.	Min.
Matter volatile at 105° C. (per cent)	35.0	—	7.0	—
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride (per cent)	2.0	—	4.0	—
Free alkali, calculated as sodium hydroxide (NaOH) (per cent)	0.1	—	0.2	—
Free acid, calculated as oleic acid (per cent)	.1	—	.2	—
Matter insoluble in water (per cent)	.5	—	.5	—
Rosin	None	—	None	—
Sugar	None	—	None	—
Unsaponified and unsaponifiable matter (per cent)	1.0	—	1.0	—
Anhydrous soap (per cent)	—	61.0	—	87.0
Titer of the mixed fatty acids prepared from the soap	25°C.	—	25°C.	—
Iodine number (Wijs) of the mixed fatty acids prepared from the soap	93.0	74.0	93.0	74.0
Acid number of the mixed fatty acids prepared from the soap	205.0	180.0	205.0	180.0
Residue retained on a No. 12 sieve (class B only) (per cent)	—	—	1.5	—

Estimation of Bleaching

To estimate bleaching intensity, a piece of fabric dyed with sulfur black is washed twenty times with a load. This dye is fast to washing but sensitive to chlorine bleach. Fading of the color is therefore proportional to the intensity of bleaching. Measurement of the loss of color between washed pieces and the original, referred to a set of standards, serves to indicate the degree of bleaching. George J. Babyok. *The Laundryman* 9, No. 3, 10 (1943).

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Polystyrene Closures

It now seems quite definite that provided a good grade of polystyrene is used, it may be employed for molded caps for contact with both weak and strong alkalies. Proof of this is afforded by the fact that polystyrene containers are being used for transporting sticks of caustic soda and other alkalies. The great value of polystyrene for bottle caps and closures for collapsible tubes and special containers is that it does not absorb any moisture and therefore its dimensional stability is of the highest order. This resin cannot be used where there is a likelihood of contact with aromatic and chlorinated hydrocarbons, as it is soluble in these liquids. *Am. Perfumer* 45, No. 3, 48 (1943).

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Alkyl Benzene Sulfonates

The sodium salts of the straight-chain alkyl benzene sulfonates have previously received little study, although commercial detergents containing them in impure mixtures have been marketed for some years. Sharp breaks in the conductance and density curves for normal-octyl- and dodecyl benzene sulfonates have been observed and interpreted in terms of Hartley's theory of colloidal electrolytes. The benzene ring was found equivalent to about three and one-half straight-chain carbon atoms in its effect on the critical concentration for micelle formation, but this fact cannot be interpreted in terms of either the length of the benzene ring or the number of carbon atoms contained therein, but must be considered as an unanalyzed property of the benzene nucleus. R. G. Paquete, E. C. Lingafelter and H. V. Tartar. *J. Am. Chem. Soc.* 65, 686-92 (1943).

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U.S.I. CHEMICAL NEWS

May ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1943

Revised Data on Solox Properties Issued by U.S.I.

New Folder Lists Applications Of General-Purpose Solvent

Revised information on the specifications for Solox, the popular general-purpose solvent, has been prepared by U.S.I.

The authorized composition of Solox now calls for the addition of the following to every 100 gallons of S.D. Alcohol No. 1:

Denaturing Grade Methanol	2.0 gals.
Ethyl Acetate	1.0 gal.
Aviation Gasoline	1.0 gal.

190-proof S.D. Alcohol No. 1 is used in the preparation of the Regular grade of Solox, and 200-proof for the Anhydrous grade.

Properties are as follows:

	Regular	Anhydrous
Specific Gravity (at 60°/60° F.)	0.8158	0.7962
Color	Water White	Water White
Flash Point (approx)	71° F.	71° F.
Coefficient of Expansion (per 1° F.)	0.0006	0.0006
Weight, Lbs. per Gallon (at 60° F.)	6.790	6.630

Because of its unusual solvent powers and its mild, non-residual odor, Solox has found extensive use in a variety of industrial applications. A revised folder, now in preparation, lists many of the most important applications in fields ranging from lacquer formulation to fuel oil conditioning. Copies of this folder may be obtained by writing to U.S.I.

New Method Determines Salts in Crude Oils

NEW YORK, N. Y. — Extensive tests conducted in five laboratories of a large company with headquarters here to determine the most accurate and reproducible method of determining the salt contents of crude oils concomitant with reasonable speed and ease of manipulation have led to a new method, employing hydrochloric acid reflux apparatus.

When the separation of layers after heat application is slow, or an emulsion forms at the interface, the addition of about 5 ml. of butanol and the judicious application of heat is claimed to effect sharp separation. Butanol has broken all emulsions encountered to date.

Carbon Dioxide Useful Against Electrical Fires

The snow and gas discharged from carbon dioxide extinguishers of the first aid type are non-conductive even in the presence of voltages up to 100,000 volts alternating current so long as the extinguisher horns retain their original high dielectric qualities. These facts are the result of an investigation made by engineers of Underwriters' Laboratories, Inc. to determine the electrical conductivity of such extinguishers when fighting fires in or adjacent to high-voltage electrical equipment.

Calcium Separated From Strontium by Use of Acetone

Calcium can be separated from strontium with fairly good results through the use of acetone as a solvent, according to a recent claim. After the two materials have been evaporated to dryness in a nitric acid solution and further dried at 170°, the calcium nitrate is extracted with acetone, in which it is very soluble, then evaporated to dryness and weighed. Strontium nitrate, only slightly soluble in acetone, remains as a residue and can be weighed separately.

Research Workers Uncover New Fields for Starch Esters

PRINCETON, N. J. — A study conducted here reveals that starch esters have potentialities for use in the coating, sizing, and adhesive industries; in the preparation of aqueous emulsions or suspensions of high polymers; and in soft rubberlike plastics.

When using such esters to form either plastics or coatings, dibutyl phthalate is recommended as a plasticizer. For example, it is claimed that a soft plastic with relatively high tack can be made with starch butyrate containing 25% dibutyl phthalate. In coatings, dibutyl phthalate minimizes checking.

Iodine Compounds of Steroids Produced by New Method

BLOOMFIELD, N. J. — A new method has been patented and assigned to a company here for the production of iodine compounds of steroids. The iodo compounds obtained are expected to find application for pharmaceutical use as therapeutic agents and also as intermediate products.

According to the invention, the hydroxy steroids are first converted into esters of true organic sulfonic acids. These are then treated with iodides, preferably in organic solvents such as acetone, at an elevated temperature whereby the corresponding steroid iodides and alkyl or aryl sulfonic acid salts are produced.

Quicker Drying Time Is Claimed for Oils Made by New Method

Better Properties Obtained by Rearrangement of Molecules

What are described as entirely new types of drying oils have been produced from soybean and linseed oils by a molecular rearrangement which introduces conjugated double bonds in place of isolated double bonds in the molecule. Superior drying and bodying properties are among the advantages claimed for these oils.

The soybean oil product is described as drying in half the time required by high quality bodied linseed oil and as gelling under heat tests in a fraction of the time required by the latter. Baking times are said to be equally short and the hardness of the dried films as good as that of dehydrated castor oil. It is reported that there is none of the tackiness of ordinary soybean oil films.

Excellent Color Retention

The color retention of these films, both in the light and in the dark, is described as outstanding, while cooking of varnishes requires less time than corresponding linseed oil varnishes. When dried without adding driers, frosting appears after one or two days.

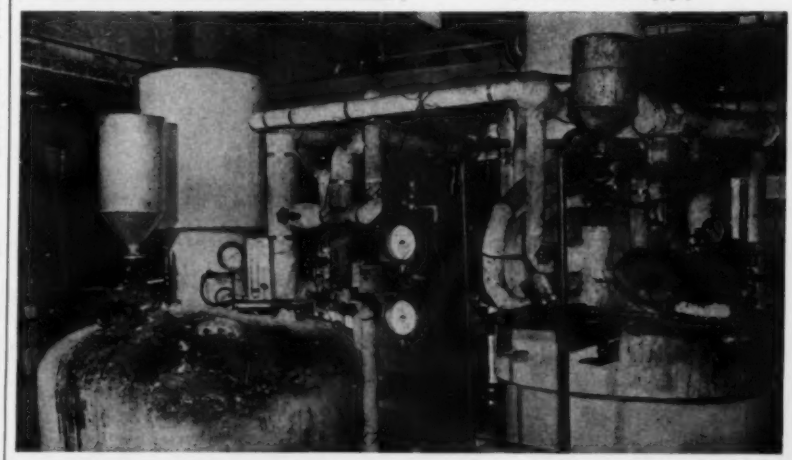
The average constants of conjugated soybean oil are as follows:

Viscosity	Z-3 or Z
Acid Value	5.9
Wijs Iodine Value (400% excess)	97.1
Total Iodine Value (Woburn Method)	128.3
Difference	31.2
Diene Value (Ellis-Jones Method)	17.4
Browne Heat (600° C.)	20 minutes
Specific Gravity (25° C.)	0.9427

Tung Oil Substitute

As the cooking of conjugated linseed oil with resins proceeds very fast, it is expected to offer new possibilities in the problem of replacing tung oil. In producing this oil, the greater part of linoleic and linolenic acid occurring in linseed oil is changed into the isomeric acids containing conjugated double

(*Continued on next page*)



Vacuum chambers at the Woburn Degreasing Company of N. J., into which drying oils are pumped after pre-heating to change the molecular structure from isolated to conjugated double bonds.

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May ★ **U.S.I. CHEMICAL NEWS** ★ 1943

Simple Method Devised to Extract Resin from Shellac

A new method for preparing pure resin from shellac was described recently, which was said to yield about 98% of the total hard resin present in the sample of shellac used.

Two litres of ethyl acetate are added to one pound of finely powdered lac and two litres of benzene added after about five minutes. The whole mass is occasionally stirred for an hour, then the admixed liquid is filtered out by pressing through a cloth or canvas bag. The swelled residue is again treated with a mixture of one litre of ethyl acetate and one litre of benzene to free the mechanically held solvent and the soft resin along with it. The whole is again filtered and pressed in a canvas bag after ten to fifteen minutes and the residue dried in a vacuum oven at 60 to 65°. Finally, the dried mass is melted under water and drawn into fibers.

Soap Deterioration Reduced Through the Use of Acetone

PACKANACK LAKE, N. J.—The addition to a soap composition of a small quantity of a product obtainable by the reaction of an aliphatic ketone compound, such as acetone, with ammonium thiocyanate prevents or greatly reduces deterioration and oxidation of the soap, it is claimed in a patent granted to an inventor here.

In tests the reaction product was mixed in the proportion of .1% with a pure white toilet soap stock containing .07% free sodium hydroxide and 12% moisture. It is said that the antioxidant is neutral in reaction and does not interfere with the estimation of the proper end point of the reaction in the manufacture of the soap.

New Procedure for Making Smoke Without Combustion

LOS ANGELES, Calif. — A new method for making smoke without combustion for use in screening, overcoming riotous crowds, and photography is described in a patent recently awarded to an inventor of this city. The smoke is said to be harmless and can be regulated in density.

In forming the smoke, cyclohexylamine and a volatile, normally liquid organic acid, such as acetic acid, are brought into contact with each other in the presence of atmosphere with either one, or both, in vaporous form. In order to dilute and facilitate evaporation of the amine, ethyl alcohol is added. The weight of the smoke may be varied by adding a volatile liquid of low boiling point such as acetone.

Obtains Higher Resistance In Hectograph Blankets

CHICAGO, Ill. — By incorporating a minor proportion of a glycol solvent in the composition, an inventor here claims that a hectograph blanket can be produced without "burning" that has exceptional heat and humidity resistance and high copy strength.

The following composition is one of several suggested:

	Per cent
Gelatin, bloom strength 220	7
Water	10
Phthalic glycerin resin	1
Glycerin	72
Ethylene glycol	9¾
Formaldehyde (40%)	¼

New Drying Oils

(*Continued from preceding page*)

bonds. It is available in viscosities ranging from Z up. Tests show striking differences in gelation and drying times between the natural, bodied oil and its conjugated isomer which suggest its advantages for air-drying or baking finishes.

The greater activity of the conjugated double bonds permits cooking this oil with slow resins and gums which are usually not used with linseed oil alone. Frosting is produced when the oil is dried without metals. On baking this oil without driers, it sets and dries faster than either linseed oil or dehydrated castor oil but somewhat slower than oiticica or tung oil. The hardness of the baked film is somewhat greater than linseed oil.

Conjugated Fatty Acids

Another important development from the same laboratories is conjugated fatty acids, isomerized products distinguished from their natural counterparts by the presence of a substantial proportion of conjugated double bonds which are formed by a "shifting" process from the isolated double bonds of linoleic and linoleneic acids. Viscosity can be controlled according to the amount of polymerization taking place during isomerization.

Foremost among the property changes wrought by this molecular rearrangement is said to be a greatly increased speed of polymerization. Others include light color and good color retention at elevated temperatures.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

An alkali cleaner and de-oxidizer for aluminum, copper, nickel and galvanized metal is described as a free-flowing powder form which is readily soluble in water. (No. 690)

U S I

A vitreous enamel frit is offered which is described as being luminous, phosphorescent and fluorescent. Suggested uses include war purposes, lamp shades, and license plates. (No. 691)

U S I

A siphon for transferring carboy acids or other dangerous liquids is announced, which is said to eliminate the possibility of carboys bursting, since the pumping action is contained within the siphon, thus creating no pressure in the carboy. (No. 692)

U S I

A rotary clarification filter has been put on the market which is claimed to incorporate an unusually sturdier leaf design. This leaf is described as producing a uniform tautness of screen, giving longer screen life, and eliminating the customary clamping rings and bolts. (No. 693)

U S I

A special kettle has been designed for mixing or processing viscous materials, creams or pastes which must be heated and which have a tendency to settle to the sides of a processing vessel. A full steam or hot water jacket surrounds the kettle for heating the contents, it is said. (No. 694)

U S I

Special cholesterol and sterol products have been developed which are said to be effective stabilizers, emulsifiers, and dispersing agents for such products as drugs, cosmetics, textiles, dyes, and inks. They are described as pale, odorless, semi-solid, non-volatile oils which will not thicken or dry out. Complete solubility in animal, vegetable and mineral oils and ready dispersement in soapy water is claimed. (No. 695)

U S I

A finish coat in color for masonry has been produced which is claimed not to require priming or an undercoat. The maker says that one coat penetrates, waterproofs, preserves and beautifies masonry whether inside or out. (No. 696)

U S I

A floor cleaning compound is offered which is said to be so fire-resistant that it will not burn when the flame of a blow torch is played upon it nor as the result of spontaneous combustion. It is further described as highly absorbent of oils and greases. (No. 697)

U S I

A plastic containing silicon has been developed which is said to combine the advantages of organic and inorganic compounds and which can be used as a solid or a liquid. The solid form has a melting point close to 500° F., it is claimed, while the liquid remains stable in consistency under temperature extremes. Properties can be altered by changing the organic molecules. (No. 698)

U S I

An adhesive is announced for sealing protective paper to plastic plane parts which is said to offer the following advantages over crude rubber adhesive: better resistance to sunlight with no "cracking-off" from the plastic, slower aging and greater uniformity of quality. (No. 699)

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Acetoacet-ortho-chloranilide
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Washing in Hard Water

THE washing of undyed cotton, linen, spun cellulose-acetate rayon, spun regenerated-cellulose rayon, silk, and wool with 0.2 per cent of a sodium aryl sulfonate in hard water at 40° C. has been compared with the washing of these fabrics in hard water with or without 0.5 per cent of sodium soap. The fabrics were examined after 1, 10, 20, 30, 40 and 50 washings for light absorption, ash content, distribution of yarns by number and weight, elongation at the breaking load, strength, and weight. Low values for light absorption by soap-washed cotton, linen, regenerated-cellulose rayon, silk, and wool are ascribed to residual alkali-earth soaps rather than to whitening of these fibers.

The ash of each textile except that of silk washed with hard water, increased with washing, although the first washing of silk with soap removed half of the initial ash. The ash of protein fibers washed with aryl sulfonate or soap was greater than that of cellulose fibers washed with these detergents. The ash of wool, silk, cotton, and linen increased more when soap was used than with aryl sulfonate.

The high wet strength of silk washed with aryl sulfonate, compared with the results of washing with soap, or in hard water alone, is a decided contrast to the 86 per cent loss of wet strength by silk during 50 washings with 0.5 per cent of fatty alcohol sulfate in distilled water. The high values of the wet strength of wool washed in hard water and soap, contrast with the values for wool washed in hard water with or without aryl sulfonate, and are not explained by the small error in counting yarns of the felted fabric. V. Ester, R. Donohue, M. Barr, F. B. Castonguay, L. Dale, D. Shepard and R. Edgar. *Am. Dyestuff Reporter* 32, 121-2, 135-41 (1943).

◆

Ammonium Soap

An ammonium soap is produced by causing a synthetic resinous material such as a modified alkyd resin having an acid number, or an acidic balsam, to react with liquid ammonia. W. H. Hill, to Am. Cyanamid Co. Can. Patents 411,397 and 411,398.

◆

Interfacial-tension Studies

Interfacial-tension studies showed that at concentrations above 0.005 Normal of sodium laurate, the adsorption of the soap at a water-heptane interface is comparable to its adsorption at the surface of its aqueous solution. The extended decrease with time of the interfacial tensions of partially hydrolyzed laurate solutions against normal-heptane is due to migration of fatty acid across the interface.

Addition of lauric acid to *n*-heptane causes interfacial-tension lowerings at the aqueous soap solution-*n*-heptane interfaces which are similar to the interfacial-tension lowerings at the analagous water-*n*-heptane interfaces. In order for aqueous sodium laurate solutions to attain very low interfacial tensions against a nonpolar organic liquid and hence to be capable of emulsifying it, considerable concentrations both of sodium laurate in the aqueous phase and of lauric acid in the organic liquid phase must exist and these concentrations must be in equilibrium. K. Davis and F. E. Bartell. *J. Phys. Chem.* 47, 40-50 (1943).

◆

Surface-active Amine

A surface-active agent is produced by heating a chlorinated, nongaseous, aliphatic petroleum hydrocarbon with a tertiary amine below their boiling points, under substantially anhydrous conditions. R. S. Bley, to North Am. Rayon Corp. Canadian Patent No. 411,642.

◆

Lithium Palmitate Phases

The phase behavior of lithium palmitate in water has been determined and compared with that of sodium palmitate. Comparison has also been made of available phase diagrams for sodium and potassium soaps. In concentrated and in dilute soap systems, the temperatures and compositions of corresponding points vary in a regular manner with the atomic number of the alkali cation. At intermediate compositions involving the middle-soap phase, no simple general trends are apparent. Addition of lithium chloride to lithium palmitate favors formation of more highly organized phases. Marjorie J. Vold. *J. Am. Chem. Soc.* 65, 463-9 (1943).

◆

Alkali Silicate

A solid alkali subsilicate is prepared by mixing together powdered silica and solid particles of caustic alkali in such molecular proportions that the alkali oxide content of the mixture is not less than the silicon oxide content, with not more than 7 per cent of water present. The mixture is heated to a temperature below the fusion point of the alkali but high enough for vigorous reaction to form an alkali subsilicate whose water content is not more than that of a nonhydrate. C. W. Burkhart and W. S. Riggs, to Pennsylvania Salt Mfg. Co. Canadian Patent No. 411,358.

◆

New Oxygen Compounds

Several new peroxide-type compounds have become available. Pyrophosphate peroxide is an addition compound of tetrasodium pyrophosphate and hydrogen peroxide that has a pH of 9.5 in 10 per cent aqueous solution. It contains 9 per cent of active oxygen. Magnesium peroxide contains 14.2 per cent of active oxygen. Urea peroxide, well known in Europe, contains 16 per cent of active oxygen and is available as crystals or tablets. A 10 per cent solution has a pH of 3.0. Tertiary butyl hydroperoxide contains 10 per cent of active oxygen. *Am. Perfumer* 45, No. 3, 24-5 (1943).

◆

Alkali Detergent

A detergent composition contains an alkali metal phosphate, an alkali metal sulfite, and an alkali metal silicate. Its solution in water corresponds to a normal phosphate, a sulfite, and a silicate having a SiO_2:Na_2O ratio between 2 and 4. C. Rutledge, to General Chemical Co. Canadian Patent No. 411,280.

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PRODUCTS AND PROCESSES

Hydrocarbon Detergent Powder

Noncaking, free-flowing detergent particles having an apparent specific gravity of 0.05-0.25 and a moisture content of 1-5 per cent are prepared by spray-drying an aqueous solution or suspension of 35-65 parts by weight of sodium sulfate and 65-35 parts of a water-soluble salt of a monoalkyl-substituted aromatic hydrocarbon sulfonic acid. N. N. T. Samaras and J. C. Harris, to Monsanto Chemical Co. U. S. Patent No. 2,298,650.

Spray-dried Detergent

A sudsing and detergent composition is prepared as a spray-dried mixture containing 5-15 per cent of a sulfosuccinic ester of an aliphatic alcohol having 5-8 carbon atoms, 5-20 per cent of a water-soluble salt of pyrophosphoric acid, and at least 50 per cent of a water-soluble nonhygroscopic carrier which is stable at spray-drying temperatures and which exhibits when in a saturated solution a pH of 6.5-8.5. Coleman R. Caryl, to American Cyanamid Co. U. S. Patent No. 2,295,831.

Soap with High Suds Rate

Soap containing a substantial proportion in the beta phase is manufactured by chilling a soap mass, and while chilling, effectively agitating and extruding the mass in continuous bar form. Agitation and extrusion take place while the soap mass is at a temperature such that it is in a condition of pasty cohesiveness, and is within the temperature range in which the beta phase as shown by x-ray diffraction photographs, is formed in a substantial amount upon agitation. By this method of procedure the sudsing rate of the soap is materially increased. Flake form suitable for household and laundry use, as well as a particle form of the soap can also be manufactured of a similar nature. Victor Mills, to the Procter & Gamble Co. U. S. Patents 2,295,594, 2,295,595, and 2,295,596.

Germicidal Soap

To produce germicidal soap, a soap base containing 0.3-20 per cent of moisture is used together with finely divided crystals of Chloramine-T, Chloramine-B, or Dichloramine-T dispersed throughout the soap. The aromatic chlorosulfonamide crystals are coated with mineral oil. They are present in such proportion as to release 11.5-13 per cent of chlorine by weight when Chloramine-T is used, 13-14.5 per cent when Chloramine-B is used, and 28-30 per cent when Dichloramine-T is used, when the composition is in contact with water. James A. Smith. U. S. Patent No. 2,296,121.

Calcium Dispersing Agents

Emulsifying agents which disperse calcium soap can be prepared by condensing lauryl chloride with a sulfonic acid of *para*-toluidine or *para*-chloroaniline in the presence of caustic soda, soda ash or other alkalies, and water, acetone or other suitable solvent. K. Venkataraman, G. V. Shirolkar and B. D. Tilak. British Patent No. 545,496.

Shaving Cream

Ten per cent of glycerine and 45 per cent of water are used with 45 per cent of soap. The soap is 30 per cent stearic-acid soap, and 70 per cent palmitic-acid soap. From 5 to 10 times as much potash soap as sodium soap is present. Latimer D. Myers, to Emery Industries, Inc. U. S. Patent No. 2,298,019.

Auto Wax

A new product aimed to save time by fleet operators in waxing the bodies of trucks, buses or cars to protect the finish, is "Transportation Maintenance Wax." It is a liquid wax finish manufactured by S. C. Johnson & Son, Inc., Racine, Wis., and is applied with a compressed-air spray gun, drying to a gloss without rubbing.

Windshield Cleaner

A composition for cleaning and polishing automobile windshields contains 12 parts of feldspar, 8 of calcium carbonate, 0.75 of sodium bicarbonate, and 3 parts of bentonite in powdered form. This is used with sufficient water to form a homogeneous nonscratching paste. Alfred Emiley. U. S. Patent No. 2,296,097.

Automobile Polish

An automobile body polish consists of a free-flowing invert emulsion formed of 20-30 per cent of a petroleum distillate boiling at about 300-500° F., 5-10 per cent of carnauba wax or substitute, 1.25-3 per cent of a fatty acid of high molecular weight, 0.75-2 per cent of borax or similar salt, 1 per cent of morpholine, 30-60 of water, and 6-10 of an abrasive such as Semilite. Thomas E. Sharp and G. W. Flint, to Standard Oil Co. of Ind. U. S. Patent No. 2,295,132.

Acidified Filter Aid

By the addition to diatomaceous earth, or to an oil into which the earth is introduced, of 2 per cent or less of citric acid, the tendency of the filter aid to produce color reversion in the clarified oil may be overcome and the color of the oil stabilized. In some instances the decolorization is improved. Milo A. Harrison, to the Dicalcite Co. U. S. Patent No. 2,296,850.

Fatty Acid Analysis

Chemists may not realize the importance of having soap completely dissolved before adding sulfuric acid to separate fatty acids, in order to avoid contamination of the fatty acids with soap. Complete mixing and contact of the sulfuric acid with the melted fatty acids is aided by the use of a circulating stirrer. B. S. Van Zile, F. W. Schneider, and E. W. Blank. *Oil & Soap* 20, 47 (1943).

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No. 2,312,801, Insecticide, patented March 2, 1943 by W. E. Craig, Philadelphia, and William F. Hester, Drexel Hill, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa. An insecticidal composition in which the active principle is a methallyl ether of nitro-substituted phenols of the benzene and naphthalene series.

No. 2,313,190, Anti-Cryptogamic Colloidal Solutions, Bactericides, and Insecticides, patented March 9, 1943 by Paul Bary, Paris, France; vested in the Alien Property Custodian. A process for the preparation of colloidal solutions employable for agricultural purposes which consists in feeding two solutions of compositions providing a colloidal suspension upon mutual reaction thereof to separate spraying nozzles, and bringing together the solutions at the free ends of the separate nozzles.

No. 2,313,488, Parasiticide Composition, patented March 9, 1943 by Frank J. Seibert and Louis C. Roller, Bound Brook, N. J., assignors to Chipman Chemical Company, Inc., Bound Brook, N. J. A composition of mattter comprising an arsenite of a metal the sulfate of which is soluble, an arsenate of a metal the sulfate of which is soluble, and a sulfate of an alkaline earth metal the sulfate of whic his insoluble, all co-precipitated as a composition of homogeneous and uniform particles.

No. 2,313,589, Parasiticide Composition, patented March 9, 1943 by Frank J. Seibert and Louis C. Roller, Bound Brook, N J, assignors to Chipman Chemical Company, Inc., Bound Brook, N. J. A parasiticidal composition comprising an arsenate of a metal the sulfate of which is relatively water-soluble and the arsenate of which is water-insoluble, and a sulfate of an alkaline earth metal, the sulfate of which is insoluble, both co-precipitated as a composition of homogeneous and uniform particles.

No. 2,314,840, Detergent Composition, patented March 23, 1943 by Coleman R. Caryl, Riverside, Conn., assignor to American Cyanamid Company, New York, N. Y. A detergent composition comprising 0.5 to 3 parts of the condensation product of an aliphatic monocarboxylic acid having 10 to 18 carbon atoms with a monoalkylol cyanamide, 5 to 10 parts of the sulfosuccinic ester of at least one aliphatic alcohol having 6 to 10 carbon atoms, and 10 to 50 parts of a water-soluble salt of pyrophosphoric acid, the parts being by weight.

No. 2,314,843, Process of Producing Nicotinamide, patented March 23, 1943 by Martin E. Hultquist, North Plainfield, N. J., assignor to American Cyanamid Company, New York, N. Y. A method of preparing nicotinamide which comprises reacting nicotinic acid and urea at a temperature from 180° C. to 250° C.

Analysis of War Soap

The proposed methods of analysis are for soaps containing a large proportion of mineral constituents.

I. Determination of moisture and fatty acids: Dry 10 grams of diced soap on 20 grams of medium-grained quartz for six hours at 105° C. for the moisture determination. Extract the residue with alcohol for six hours in a Soxhlet extractor. After evaporating off the alcohol, add 150 cc. of water and 25 cc. of 20 per cent hydrochloric acid. In a separatory funnel extract fatty and rosin acids with ether.

II. Determination of fatty acids and the free and total alkali: Titrate an alcoholic extract as prepared above with 0.5 Normal hydrochloric acid using phenolphthalein as the indicator, to determine free alkalinity. Evaporate off the alcohol, add 40 cc. of 0.5 Normal hydrochloric acid and filter. The residue after evaporation is the chloride salt of the bound alkali hydroxide. Dissolve the fatty and rosin acids off the filter paper with a 1:1 solution of ether and ethyl alcohol.

III. Determination of the fatty acids and the degree of sulfonation in the soap prepared from sulfonated fats: Dry an alcoholic extract as prepared under I. and take up with 100 cc. of water. Reflux with 100 cc. of concentrated hydrochloric acid for one hour to split off sulfo groups. Extract fatty acids and weigh. Precipitate from the aqueous solution with barium chloride for determination of sulfate.

IV. Determination of ash: Dry the samples in crucibles, ash and weigh. A correction is applied because the ash contains carbonates: C equals c—[(106A/80) — A], where C equals corrected ash, c equals ash as weighed, and A equals total alkali hydroxide calculated as NaOH. R. Lucentini and A. Picozzi. Ann. chim. applicata 32, 163-8; through *Chem. Abs.*

Fatty Acid Separation

A method for obtaining fatty-acid fractions relatively rich in stearic and palmitic acids from mixtures such as tallow and garbage grease, comprises dissolving the fat in a solvent such as 90 per cent methanol, and establishing in the solvent solution a quantity of neutral fat amounting to about 0.5-3.5 per cent of the weight of the fatty acids in the solution. The solution is chilled the first time to an extent sufficient to provide a fraction purer in stearic than in palmitic acid. This fraction is removed by filtration. The solution is chilled a second time to an extent sufficient to effect crystallization of a eutectic mixture of stearic and palmitic acids. This fraction is removed by filtration. The solution is chilled a third time to an extent to precipitate a fraction richer in palmitic acid than in stearic acid and this fraction is removed by filtration. L. D. Myers and V. J. Muckerheide, to Emery Industries, Inc. U. S. Patent No. 2,298,501.

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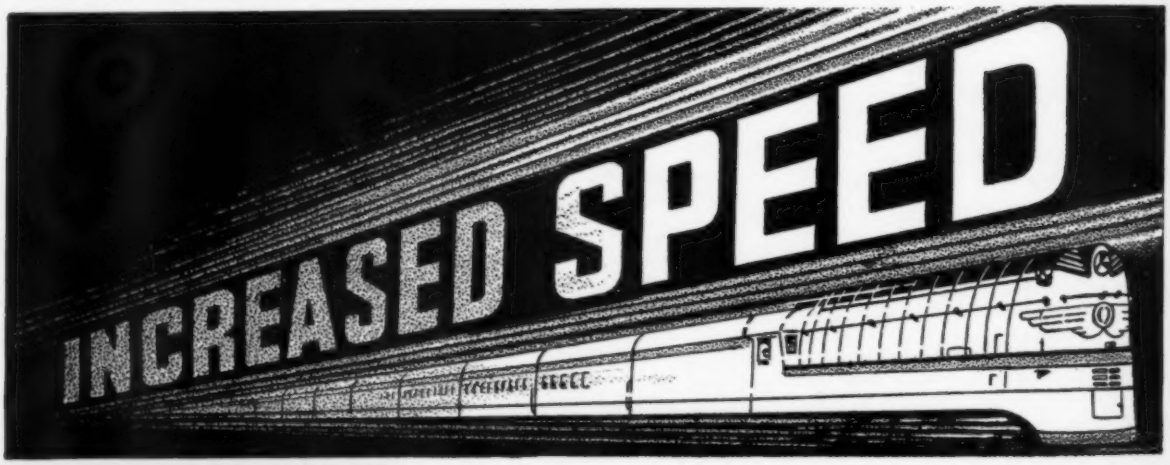

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941—Kiefer Booklet

Karl Kiefer Machine Co., Cincinnati, O., has just issued a 16-page booklet entitled "Kiefer Calling." Ways to conserve and preserve machinery now in operation is the theme of this educational booklet.

942—MM&R Spring Catalog

Magnus, Mabee & Reynard, New York, has just brought out its 52-page April-May, 1943, catalog which covers the company's line of essential oils, balsams, aromatic chemicals, oleoresins, certified colors, flavoring materials and basic perfume products. The new catalog is of pocket size, 9" x 4", and is available on request.

943—Congo Resin Booklet

The American Gum Importers Laboratories, Inc., Brooklyn, N. Y., is distributing a 24-page booklet dealing with Congo resin for protective coatings for military and civilian applications. Included in the booklet is a "Progress Report on the Project of the use of Congo Resin in Bright Drying Floor Polishes." In this report some formulas are given of the best Congo polishes and their characteristics.

944—Givaudanian War Issue

Under the title "Givaudan Goes To War," the March, 1943 issue of *The Givaudanian,* house organ of Givaudan-Delawanna, New York, devotes itself entirely to the part Givaudan men and materials play in the war effort. A two-page spread with pictures illustrates and describes the important role of soap on the war and civilian fronts. Over one-half of the entire Givaudan-Delawanna dollar and weight output goes into the manufacture of soap.

945—Offer Extinguisher Charts

American - LaFrance - Foamite Corp., Elmira, N. Y., has just published two new fire extinguisher charts that are now available free of charge. These two charts, one for wheeled-engine extinguishers, the other for other types of extinguishers, give complete information on the various ways in which different types of extinguishers can be used. This company is also distributing a new educational booklet on the maintenance of "First Aid Fire Fighting Equipment."

946—Women In Science

"Women in Science During the War and After" is the title of a folder just issued by the Philadelphia College of Pharmacy and Science. The folder discusses the place of women in pharmacy, biology, bacteriology and chemistry and outlines courses open to women in these fields.

Wartime Dentifrice Market

(*From Page 29*)

At about the time that raw material squeezes first began to be felt, a number of months back, cuts in the amount of tin that could be used for tooth paste tubes and tooth powder boxes were also being put into effect. In both tubes and boxes, the problem of replacements has not, of course. been one exclusively for dentifrice manufacturers. Other tube and tin can users have been up against exactly the same situation. The result was and is that paper box and substitute container people have been swamped with inquiries, specifications and orders. As if the production and container problems weren't bad enough in themselves, there has been the added complication that these brakes on production have been applied right at a time when the market was expanding and business was better than ever before.

In an effort to remedy the tin tube situation, several manufacturers have been experimenting with collapsible plastic tubes. Notable is Colgate-Palmolive-Peet in this respect, reported to have three plastic tubes under consideration. They are giving exhaustive sales tests to one particular model: that made by Celluplastic Corp., Newark, N. J. In appearance it differs slightly from the metal models. In fact, one spokesman for the firm said he thought the plastic tube was a better looking package than the metal. Whether or not plastic will replace metal entirely is a matter of speculation. One drawback which was pointed out is that plastic itself is becoming increasingly difficult to secure. Second, there is the impossibility of obtaining new packaging machinery. New models must be capable of being packed on old machinery to offer any measure of relief.

In order to capture some of the business tooth paste is losing, and at the same time to get in on an expanding market, a number of new bottled dentifrices have recently made their appearance. "Trans," one of the newest bottled toothpastes, is manufactured by Golden Peacock Toiletries Co., Paris, Tenn. Four ounces of "Trans" retail for 25 cents. A similar preparation, as far as consistency is concerned, is Dr. West's "Vray." Six ounces of "Vray" retail for 39 cents. Another bottled tooth paste due to appear on the market shortly is that made by Lambert Pharmacal Co.

Not quite the same thing as "bottled tooth paste," are products such as "Teel," made by Procter & Gamble, which was one of the first liquid dentifrices—brought out about five years ago. "Cue" made by Colgate-Palmolive - Peet, "Liquid Pepsodent" and "Craig-Martin" about complete the liquid roster. Liquid dentifrices, as was pointed out in the Milwaukee survey "today retain approximately the same popularity that they held a year ago . . . (and are) being used by 17 per cent of all Greater Milwaukee fam-

ilies this year." This evidence seems to be fairly well substantiated by manufacturers. However, it is reported that liquid dentifrices were dropping off in sales up until the time tooth paste went into its recent sharp decline. Then, the liquids gained back some of the ground they had lost shortly after their first introduction.

What are the long range possibilities for a liquid dentifrice? The recent FTC complaint charging that the best selling liquid dentifrice cannot clean teeth as effectively as a powder or paste, since it "has no abrasive qualities" (and) is inferior as a cleansing and polishing agent . . ." was the reason one manufacturer gave for the bad future outlook on liquid dentifrices. This spokesman for a manufacturer of liquid, and other types of dentifrices, admitted that the liquid dentifrices "will not do a cleaning job" and will not do well in the long run.

In tooth powders, almost all of which were formerly packed in tin cans, the trend in war-time packaging has been to paper, although some glass is being used. The demand for paper containers in other fields and the invasion of the tooth powder field by a number of paste makers has put an unprecedented burden on box makers. The result is that paper containers are growing increasingly difficult to get, and suppliers are beginning to turn down orders. One dentifrice manufacturer said that the paper container bottleneck is currently the biggest check on sales of tooth powder. In the main, the new tooth powder boxes are cylindrical in shape, coming in a variety of sizes. Tops and bottoms are for the most part paper. However, a few use metal, while most seem to prefer a plastic top and a paper bottom. The plastic top usually contains some sort of dispensing device. One of the stand-outs in the field, is the Colgate-Palmolive-Peet inverted-cone paper container,—an award winner in the recent packaging contest. It is still too early to determine whether paper will be a permanent tin can replacement, say most manufacturers. The principal argument against post-war use is the high price of these substitutes. Paper containers also require more mechanical operations to pack.

Tall Oil in Soap

(*From Page 27*)

soap tends to be soft, unless builders, such as soda ash, are also added. These mixed soaps may be prepared by mixing the tall oil with the usual fat and saponifying the mixture following standard procedure. It is preferable to saponify the fat separately and then add the tall oil near the end of the boil much as is done with rosin. The latter method is preferable on a cost basis since tall oil does not have to be boiled when converted to soap.

As a typical illustration of a hard soap containing tall oil Straus (14) uses the following soap stock:

	Parts
Hard fat	50
Tall oil	20
Coconut fatty acids	20
Peanut oil fatty acids	10

This soap stock when saponified with caustic soda and salted out gave a light brown soap.

Straus also states that the following soap stock is used for the preparation of a toilet soap.

	Per Cent
Hard fat	53.7
Tallow	29.
Rosin	5.2
Refined tall oil	12.1

Hard soaps containing tall oil have been sold in the form of bar and chip soaps. It is reported that chip soaps containing tall oil may be prepared following standard practices.

Tall Oil in Soap Powders

SOAP powders prepared with tall oil as part of the soap stock are giving good results and today considerable quantities of tall oil are used in this way. For these powders, tall oil or crude tall oil skimmings are mixed with cottonseed foots or other similar material. After complete saponification, calcined soda ash is mixed in and the mixture allowed to air dry. The amount of tall oil used in these soap powders has varied all the way from 10 to 50 per cent of the total fat content. The amount of soap in these powders has usually been around 20 per cent of the total soap powder.

Crude tall oil skimmings have been spray dried experimentally on a semi-commercial scale. The spray dried soap beads formed were free flowing and light yellow in color.

In addition to the products described, tall oil finds use in soap specialties as liquid, jelly, and pine oil scrub soaps, garage floor cleaners, and dry cleaning and rug cleaning soaps. With specialty soaps containing expensive alkalies as triethanolamine, tall oil is preferable to other fatty acids due to its comparatively low alkali requirement.

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Because of Army and Navy needs, none of this new extract will be available to the industry for the present. Nevertheless, it offers unusual possibilities for post-war insecticide manufacture with marked savings in containers, freight, and handling. Likewise, it will enable us to supply PYRIN of tremendously increased concentration when restrictions are removed.

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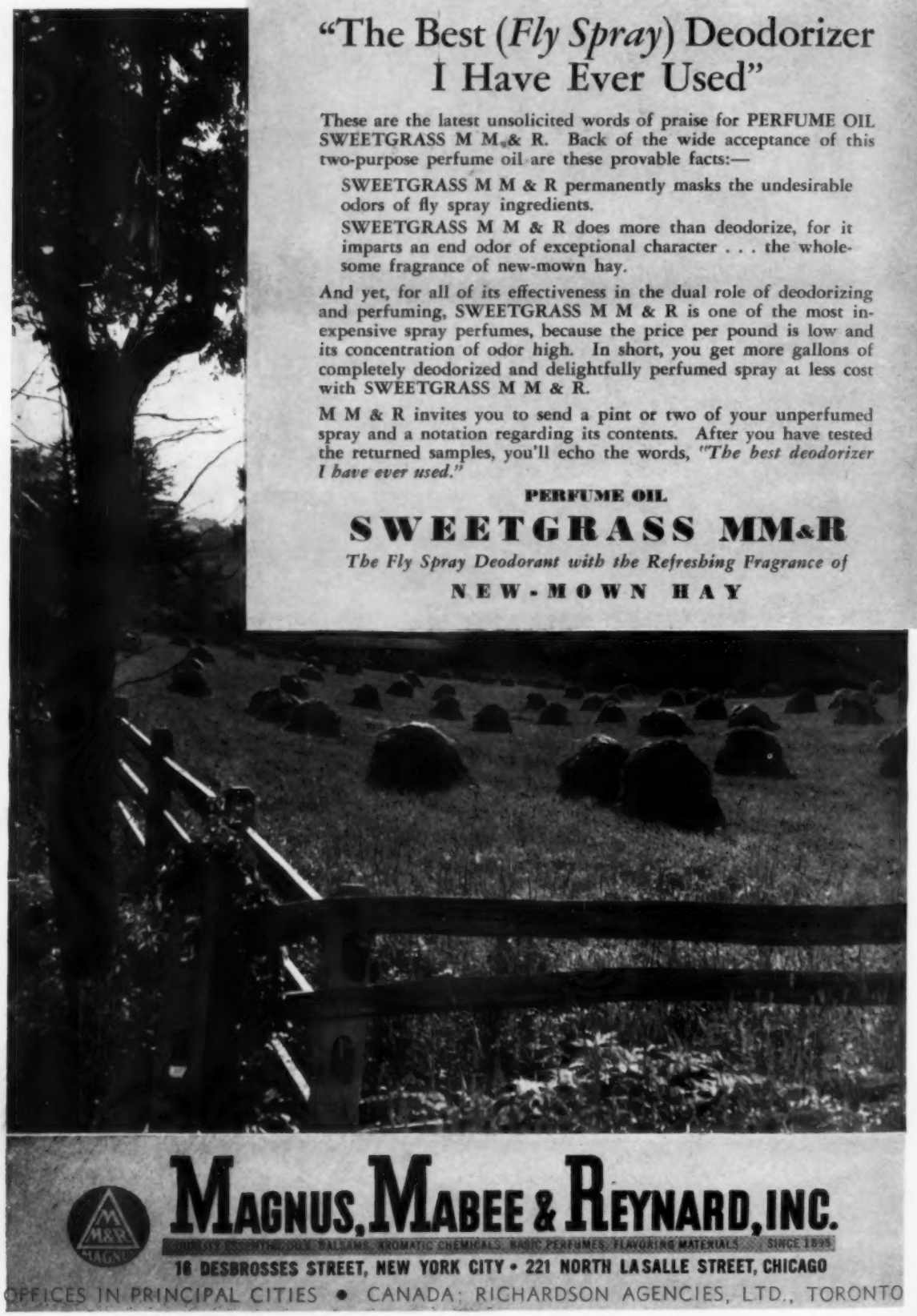

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These are the latest unsolicited words of praise for PERFUME OIL SWEETGRASS M M & R. Back of the wide acceptance of this two-purpose perfume oil are these provable facts:—

SWEETGRASS M M & R permanently masks the undesirable odors of fly spray ingredients.

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SWEETGRASS MM&R

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NEW-MOWN HAY

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THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

INSIDE NEWS

MAY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1943

A "ribber" separating the forequarter of beef from the hindquarter in a packinghouse cooler.

Cold Storage Destroys Parasitic Infections in Meat

Some States Make Freezing a Regulation in the Preparation of Meat Products

Freezing at 5° below zero for 20 days destroys parasitic infections in meat which cannot be detected by ordinary inspection, according to a recent report to the American Chemical Society. Tularemia, or deer fly fever, in rabbit meat and trichinosis in pork can be controlled by freezing at proper temperatures. Thereafter the meat is kept in cold storage under controlled temperatures until it reaches the consumer.

In Massachusetts wild rabbits are free from the disease of tularemia and the Department of Conservation has a regulation quarantining imported live rabbits before they are liberated. Moreover, carcasses of rabbits shipped from other states into Massachusetts must have been kept in cold storage at a temperature of less than 30° F. for a period of not less than 30 days.

All trichinae is destroyed in pork if the product is frozen for 20 days at 5 degrees below zero. However, only the commercial meat packing houses have the equipment to safely perform this freezing operation. No system of inspection can guarantee pork to be free from this parasite. Every householder, to be safe and to develop the best flavor in fresh pork, should cook the meat until the red color has entirely disappeared. In human beings trichinosis is usually confined to those races who prefer to eat their pork under-cooked.

Among the regulations of the U. S. Bureau of Animal Industry, as well as those of the states of New York and New Jersey, governing the preparation of meat products, freezing is of paramount importance. In a sense, however, the state regulations are experimental in nature. If they prove to be of definite value as a public health safeguard, the freezing regulations will mark a big step toward ultimate control of trichinosis in this country. (357)

'Gross' vs. 'Net' Income

At last American business is beginning to think with its head! Witness the Johns-Manville Corp. Advertisements telling the public, its customers and employees what the company's balance sheet shows for the first full year of wartime operation.

Gross income $108,500,000. Salaries and wages $37,000,000. Taxes $16,500,000. Other costs of doing business $49,500,000. Rainy-day reserves $3,500,000. Dividends $2,000,000.

What a different picture that is from the one conjured up by the demagogue who only refers to "gross" income and ignores the "net"—the figure which tells the real story.

Johns-Manville had a large total (gross) income but the breakdown shows 34 per cent going into pay envelopes, 15 per cent to the tax collector, and only 2 per cent to the stockholders whose ventured capital made the business and the pay roll possible.

As other corporations see the wisdom of going to the public with this sort of proof that the profit has been taken out of war, distortion of the American business picture by demagogues, politicians and soap-boxers will become more of a chore. (338)

—Reprinted through courtesy of New York World-Telegram and Johns-Manville Corporation.

New Paste Scouring Agents

To replace steel wool and soap scouring pads, now banned from the market by war needs for steel, a new type of paste scouring soap packed in wide-mouth containers is being offered.

These scouring pastes are similar to ordinary mechanics' paste hand-soap except that they are firmer and carry a higher percentage of abrasive. The abrasive used is coarse powdered pumice, comprising 35 to 45 per cent of the paste, along with 25 to 30 per cent of soap and a small percentage of sodium silicate and glycerine substitute. The new pastes are designed to replace the steel wool pads in scouring pots and pans in homes and restaurants. (339)

Canned Mussel for Lend-Lease Shipment

The sea mussel seems destined to become popular here as the nation looks for more food resources, according to the Office of the Coordinator of Fisheries. Closely related to both the oyster and the clam, the mussel can be used and cooked in the same manner. Its flavor, which will be at its peak until June, is something like that of the longneck clam.

Maine, Massachusetts and Rhode Island have considerable resources of this excellent seafood and it is probable that a million bushels will be taken this year. Mussels have always been popular in Great Britain and one canning company here has been experimenting recently with canning them in the United States for possible lend-lease shipment to England. (340)

NATIONAL CAN

PLANTS: NEW YORK • BOSTON • BALTIMORE • CHICAGO • HAMILTON, OHIO • FORT WAYNE, INDIANA

New Product for Organic Syntheses

Diphenyl sulfone was recently offered as a new product by a large American chemical manufacturer.

Characteristics of the compound are said to suggest its use as an intermediate in organic syntheses or in the preparation of diphenyl sulfides, selenides and their derivatives. It is slightly soluble in hot water and soluble in most of the usual organic solvents.

Laboratory quantities are available in a technical, grayish white powder with a melting point of 120-125° C.; and a pure grade consisting of white crystals and having a melting point of from 127-129° C. (341)

Looks Innocent Enough —But it Packs a Wallop!

The standard one-gallon can, so widely used in the paint and chemical industries, is now serving the United Nations on world battlefronts as an important part of certain types of land mines. It is but one of many essential wartime containers being produced in quantity by National Can Corporation.

U. S. May Become a Leading Cheese Exporter

Prior to the war American cheeses were little known outside the United States, but at present they are going abroad in staggering quantities. In 1939 our exports of all types of cheese were less than 1,500,000 pounds. In 1943 274,000,000 pounds of American cheddar cheese alone is expected to be shipped to the Allied Nations.

American dairy farmers and packers have reason to believe that this global distribution will result in widespread acceptance of American cheeses after the war. (337)

Technical Topics

CAT-TAIL DOWN—Down from the common cat-tail makes a stuffing floss comparable to Kapok, formerly imported from Java. A pilot plant in Wisconsin is already using large quantities of cat-tails from nearby marginal farm swamp land. (342)

WEED KILLERS—The use of catalysts to increase the destructiveness of weed killers has been tested by an English railroad. Using a mixture of sodium chlorate and calcium chloride, various catalysts were added. In all cases the lethal effect of sodium chlorate was increased, vanadium pentoxide appearing to be the most powerful catalyst. (343)

BLACK COTTON, according to a Soviet embassy bulletin, is a new variety which eliminates the necessity of using black dyes to color the fibre. In this country considerable research has been devoted to the possibility of raising different shades of plants by chemical treatment of the soil or the sap of such plants. (344)

ALCOHOL from wood is a new American industry. Alcohol was once made in this country from the waste sulphite pulp of paper mills, but discontinued because of high cost. The new process produces ethyl alcohol at a lower cost than present methods which use grain. (345)

TUNG OIL SUBSTITUTE—A substitute for tung oil, with excellent properties as a drying oil, has been found in a tree growing wild in Mexico, which estimates indicate can give a yield of 1,200 tons a year. A fatty acid extracted from this oil has additional value for candle making. (346)

NEW INSECT INGREDIENT—There is renewed interest in sabadilla as a raw material for the manufacture of insecticides because of the acute shortage of pyrethrum, derris, cube, etc. A process for use of sabadilla has been worked out and will be offered commercially by the Alumni Research Foundation of a mid-western university. (347)

MANILLA FOR ROPE—Several hundred acres a week in Panama and Costa Rica are being cut from the jungle and seeded to Manila fibre plants as a step toward filling the United Nations' need for rope. (348)

SUBSTITUTE FOR CASAVA—Eastern Colorado farmers this spring can aid in the war by growing leoti sorghum as a substitute for Casava, starch-bearing plant of the Orient from which tapioca is made, or as an excellent feed for livestock. (349)

CHEMICALS INCREASE GUM FLOW OF PINES—The labor shortage and the urgent need for production of more rosin and turpentine for war uses focus attention on the discovery by the U. S. Forest Service that 40 per cent sulphuric acid solution or a 25 per cent solution of caustic soda (lye) will greatly increase the gum flow of both longleaf and slash pines. (350)

ABACAXI SACKS—Abacaxi fibre is being used in Brazil for production of sacks, according to a Brazilian publication. It is claimed that abacaxi is stronger than jute and has given excellent results in the manufacture of sacking material. (351)

BUTYRALDOXIME is being offered in semi-commercial quantities by an American manufacturer for practical plant development of its reactions. Suggested uses are as a solvent, antioxidant and in organic syntheses. Homologous oximes are also said to be available in sample quantities. (352)

HAY FEVER—Vitamin C has been suggested for the treatment of hay fever in a recent report of investigations carried out at a mid-western college. Noting the low levels of vitamin C during hay fever, sufferers were given vitamin C in an effort to bring the body content to normal. The experiments recorded a distinct gain with eighty-eight per cent of the patients. (353)

CHEMICAL SMOKE—Perchloroethylene is the basis of a chemical smoke screen developed by an American manufacturer. The fluid, once used extensively for dry cleaning, is converted into hexachloroethane which reacts vigorously with fine metallic zinc to form zinc chloride. During the reaction there is liberated a large quantity of heat which evaporates the zinc chloride and produces a dense cloud of white smoke. (354)

CHROMIUM FLUORIDE AND FORMALDEHYDE have been found in Russian investigations to preserve industrial wool textiles against bacterial degradation. Potassium bichromate and barium fluosilicate could be substituted for the chromium fluoride it was declared. (355)

REPLACEMENT FOR CHLORINE—Ethyl mecuric compounds have been found suitable as replacements for chlorine in the prevention of mold in ground wood pulp during storage, and for addition to pulp while in the beater to prevent formation of slime on the paper making machine. (356)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corp., 110 E. 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

(Advertisement)

Mrs. America is in a *Saving* Mood

It's Your Duty to Save what you have
Conservation helps the Nation
Save what you have with the aid of products packed in
Duraglas Containers
Duraglas is tomorrow's package, here today!
OWENS-ILLINOIS GLASS
It's Your Duty to Save what you have
OWENS-ILLINOIS GLASS

This ad was in THE SATURDAY EVENING POST November 21, 1942 (Circulation 3½ Million)

This ad was in WOMAN'S HOME COMPANION February, 1943 (Circulation 4 Million)

Dramatic Duraglas Advertising Tells Her What to Buy For HOUSEHOLD CONSERVATION

THIS AD IS APPEARING IN THE MAY McCALL'S and PARENT'S MAGAZINES. (4½ MILLION MORE CIRCULATION!)

RETAILERS ARE CASHING IN ON CONSERVATION

Grocers throughout the country are writing Owens-Illinois for a special new leaflet showing them how to open a "Conservation Department." Shown are several displays that have increased sales of household items in Duraglas containers as high as 161.1% over previous weeks.

The ad shown above from *McCall's* and *Parent's* has been merchandised to grocers through advertising in April and May issues of *Progressive Grocer, Chain Store Age, Super Market Merchandising, Grocer's Digest, The Plee-Zing Answer, National Grocer's Bulletin, The Cooperative Merchandiser, and Red and White Hy-Lites.*

Duraglas advertising in national magazines reminds women of the practical patriotism of conservation. It tells them how to buy household helps conveniently and economically—in handy Duraglas containers.

Mrs. America is looking for your product in Duraglas containers today. For the name "Duraglas" on the container convinces her that the manufacturer insists on the best of everything, including the package.

This confidence in Duraglas containers, established now by many manufacturers, will draw dividends for their foresight tomorrow as women learn more and more to *see* what they *buy*—in Duraglas containers.

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POWERFUL TOXIC AGENT IN ECONOMICAL DILUTIONS

Type of Base Oil	Percentage of Thanite	Dilution Ratio	% Knockdown 10 Minutes	% Dead 24 Hours	Grade	Rating	% Dead & Moribund	Grade	Rating
Deodorized Kerosene	1.75	1:57	98.4	41.2	B	+ 0.8	51.0	A	+ 9.9
"	2.00	1:50	98.9	52.4	A	+12.4	65.3	AA	+24.7
"	2.50	1:40	99.2	59.5	AA	+19.1	75.4	AA	+34.3
"	3.00	1:33	99.7	65.2	AA	+24.8	83.1	AA	+42.0
"	5.00	1:20	100.0	86.1	AA	+41.6	94.6	AA	+48.7
50 Viscosity White Oil	1.5	1:67	94.8	56.6	B	+ 3.7	No moribund flies.		
"	2.50	1:40	99.5	78.5	AA	+25.6	No moribund flies.		
"	5.00	1:20	99.6	89.8	AA	+36.9	99% dead and moribund.		

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Thanite is a complete, powerful toxic agent produced 100% from domestic sources. Fully active—it contains no diluent or inert material. Completely stable—sprays produced from Thanite may be packaged in any type of metal or glass container.

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NATIONAL SANITARY SUPPLY ASSOCIATION

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Thru Sanitation

Every dealer of sanitary supplies should pledge himself to serve the Nation to the best advantage possible. It is only through proper cooperation with manufacturer, dealer and consumer that this can be done.

Speakers at the convention will largely be drawn from Washington war agencies, in an effort to clarify understanding of the latest regulations covering materials, prices, labor, transportation and other vital subjects. In addition to the valuable program that is being planned, leading manufacturers will display their latest developments of interest to the jobbing trade.

This is a meeting that I don't think you can afford to miss. As President of your Association, I invite you to be present.

M. L. Magee,
President

Selecting a package. There's a lot more to it than meets the eye. There are a lot of containers of different styles and capacities—narrow and wide mouth rounds, blakes and ovals for example—in crystal or amber glass. The product, its selling price, production limitations, market, and end use—all play an important part in selecting the container best suited for your product.

It's the same with closures. Liners, too. The product itself—and its chemical and biological characteristics—sets the pace. Maybe it needs an airtight, leakproof seal. Or one that will vent at predetermined pressure. Or one that can be removed and reapplied time and again, with no loss of product efficiency.

That's why we don't guess. Why we want to *know* your product before making recommendations. Then—and only then—can it be properly packed.

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Sanitary Products

their manufacture, testing and use

By Leonard B. Schwarcz

CONTENTS

Sanitary Products Industry — reviewing the type firms in the industry, the products they manufacture, and their annual value.

Discovery of Bacteria—historical background on the germ theory of infection.

Principles of Disinfection — the role of chemical preparations in disinfection; definition of disinfectant terms.

Coal Tar Disinfectants—a review of their manufacture and use.

Cresol Compounds — Liquor Cresolis Compositus, B.A.I. Compound, petroleum-type cresylics.

Pine Oil Disinfectants—manufacture, properties and uses.

Hypochlorites—manufacture, properties and uses of chlorine disinfectants.

Formaldehyde—its applications in the disinfectant field.

Oil Soaps—manufacture, sale and use of jelly soaps, green soaps, auto soaps, floor scrubbing soaps, etc. Special attention is given to manufacture of oil soaps from fatty acids.

Liquid Soaps—The case for liquid soaps for washroom use. A review of raw materials, manufacturing methods, use, etc., with special attention to the problems of clarity, concentration, dispensing equipment, etc.

Soap Dispensers—a review of the common types of liquid and powder soap dispensers, push-in, push-up, tilt, goose-neck, pullman, etc.

Floor Waxes—A review of raw materials for floor wax manufacture and a study of manufacture and application of liquid waxes, paste waxes, water-emulsion waxes.

The Insect Problem—A review of the general role which insecticides must fill in man's battle against the insect world.

Pyrethrum Insecticides—The important place that pyrethrum has taken in the manufacture of non-poisonous insecticides. Manufacture, testing and use of pyrethrum insecticides are reviewed.

Rotenone Materials — Occurrence and toxicity of rotenone, and its use as an insecticidal raw material. Comparisons with pyrethrum on toxicity and deterioration.

Synthetic Insecticides—The most complete review yet published of the chemical nature, characteristics, and use in insecticides of a dozen synthetic materials.

Activators—The action of activators in stepping up insecticide toxicity. A study of activators which are in current use.

Roach Control — Roach powder formulation. The role of sodium fluoride and borax.

Bedbug Liquids—Control methods and special preparations.

Livestock Sprays—Manufacture and use of cattle sprays, with particular emphasis on repellency, application and choice of oil base.

Sprayers—A review of hand, continuous and electric types. Applicators for aerosols are also discussed.

Moth Preparations — Use of paradichlorbenzene, naphthalene, cedar preparations, etc., in moth control. Cautions on labeling.

Deodorant and Urinal Blocks—Para vs. naphthalene blocks. Pressed vs. molded blocks. Perfuming, wrapping, etc.

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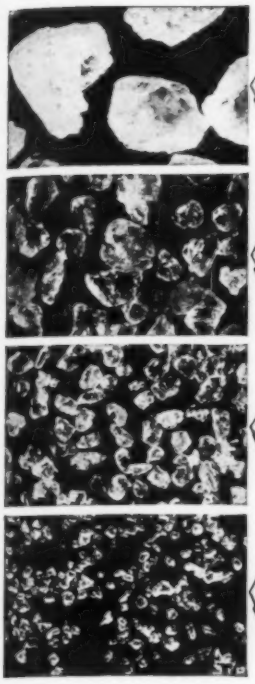

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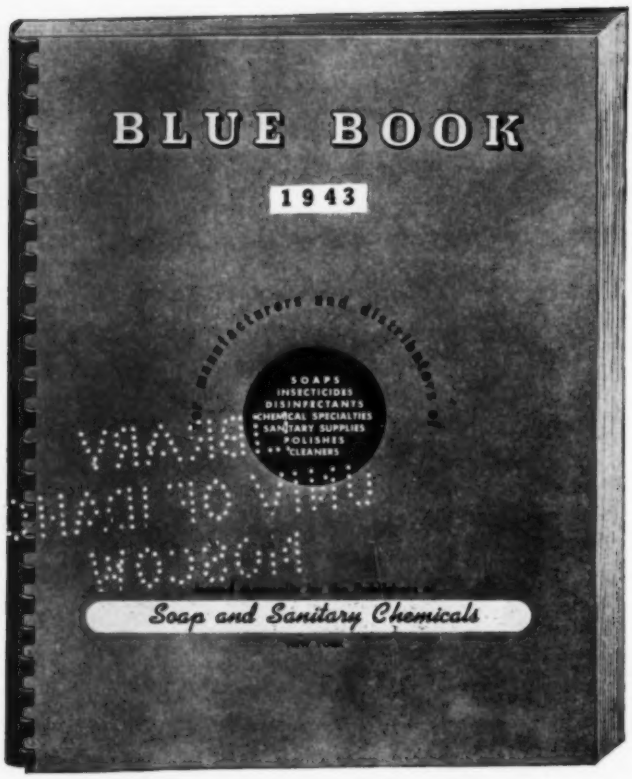

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SANITARY PRODUCTS

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

ONCE again, the vicissitudes of war necessitate that plans for the War Problems Conference of insecticide and disinfectant manufacturers originally planned for Toronto, Canada, early in June, be changed. The hotel in Toronto has been taken over for the period by the Canadian Government for a munitions conference. Accordingly, the meeting of the insecticide and disinfectant industry, as announced by the National Association of Insecticide & Disinfectant Manufacturers, will be shifted to Cleveland,—June 7 and 8.

In view of the fact that this conference in Cleveland will be open to all manufacturers and distributors in the industry, and matters to be discussed will be almost wholly problems of a war-time nature, every firm that can possibly do so, should have a representative present. Under current conditions in the industry, the importance of the subjects to be considered is self evident.

FOR several months, the U. S. Department of Agriculture has desired to dispose of four hundred thousand gallons of sodium arsenite which it owns out and around the country in various warehouses. Attempts of manufacturers of weed killer to buy all or part of this material have, they report, met with obstacles at the W.P.B. in Washington. The Department wants to sell, and the buyers want to buy, but it seems that W.P.B. is not agreeable. The buyers want to know why this material should be held off the open market and permitted to rot away its containers when it is so sorely needed right now. The question looks like a fair one.

FROM the W.P.B. via the Office of War Information comes word that the eighteen million families who are expected to sweat over their Victory Gardens this summer, will be able to obtain the necessary insecticides and fungicides, — including some pyrethrum and rotenone,—to prevent the insects from devouring the fruits of their labors. Based on past observation, we fear that a large proportion of the country's Victory Gardens are likely to be pretty much of a flop, — and that much of the insecticide materials consumed for their protection will be mostly wasted. Amateur vegetable gardening has as far as we can determine never been too fruitful. Our own experience has averaged about fifty cents worth of vegetables for each ten dollars worth of seed, fertilizer and insecticides. So after reading that some pyrethrum and rotenone may be available for Victory Gardens this year, do not be surprised if insecticide manufacturers supplying essential needs and professional vegetable growers who cannot obtain these materials, tear their hair and scream for relief.

OIL OF CEDAR WOOD

By Dr. Ernest Guenther

FRITZSCHE BROTHERS, INC.

THE Eastern, or Tennessee, or Southern red cedar (*Juniperus virginiana* L., fam. *Pinaceae*), as distinguished from the Eastern white cedar (*Thuja occidentalis* L.) and the Californian white cedar (*Libocedrus decurrens Torr.*), is a slow growing evergreen tree with a narrow, dense and pyramidal crown which, in old specimens, sometimes becomes spreading and round-topped. In the South, the red cedar attains greater height than in the North; seventy-five year old trees often reach a height of 60 feet. Majestic cedar trees 5 feet in diameter and 100 feet tall have been reported. In years past, the virgin forests of lofty cedars extended throughout Florida and Georgia, but most of them have been exterminated. *Juniperus virginiana* now occurs in the form of a fairly continuous belt running approximately from the central part of Virginia, through North Carolina and the northern edge of South Carolina into Tennessee, central Kentucky and northern Alabama. Throughout this region the tree grows almost everywhere; it also is found scattered in certain sections of Arkansas (Ozark Mountains), southern Alabama, Mississippi, Texas and Florida.

The red cedar grows on dry hillsides, also in swamps, but seems to prefer limestone. In the latter soil it develops faster, healthier and more luxuriantly, and probably produces more oil. The tree grows wild, seeding itself quickly and prolifically. The only plantations are those established by the Forest Department of North Carolina for the control of soil erosion. Forest fires, prevalent especially among the young trees which burn easily, constitute the chief obstacle to rapid expansion of the red cedar forests.

Most of the forests are privately owned. The farmers go through the woods on their property regularly, felling mature trees and preserving the young ones for later years. Some lands are worked directly by sawmill companies which purchase from the proprietors the "timber right," permitting them to cut the timber without owning the ground. It is not necessary to reforest, but a number of older cedars should be left standing as "seed trees."

The cutting period extends throughout the year and is intensified during times when the farmers are not otherwise busy. The felling is done with axes, the logging with tractors or horse teams, and the logs are hauled on trucks.

The red core or heartwood (duramen) of *Juniperus virginiana* is of special interest to sawmill operators and distillers of oil because it contains essential oil. The outer layer of white sapwood (alburnum) is almost devoid of oil. Distilling sapwood in our laboratories, we obtained a yield of only 0.2 per cent oil which had a poor odor, not at all characteristic of cedar wood. As the tree grows older, it develops more heartwood and every year the layer of sapwood becomes thinner. For this reason the trees should not be felled before reaching the age of twenty-five years.

Prior to 1917, practically all oil of cedar wood produced for commercial purposes was distilled by the cedar pencil slat manufacturers. They required for their purpose virgin timber, that is, old original growth of large trees with practically no knots and a straight, even grain. As early as 1910 most of this type timber had been taken

from the forests, and the pencil slat manufacturers were forced to buy up cedar fence rails and old log cabins built by early settlers many years before with wood from virgin forests. Of course, all the sapwood had disappeared from this old timber which consisted entirely of red heartwood. Besides, it had been seasoned for fifty years or more and exposed to all kinds of weather. At the time of Rabak's investigation[1], most cedar wood oil still came from such material.

In about 1917, one of the present large distillers undertook production of cedar wood oil, using as raw material sawdust from freshly cut cedar trees employed in the manufacture of cedar chests, closets and linings. This timber was not only freshly cut, but it was the class of timber referred to by pencil slat manufacturers as second, small growth or sap cedar. It was the cedar used for making cedar boards and contained a great many knots. Because of the knots and the twisted grain, these trees were not suitable for making pencils; most of them were not more than twenty-five or thirty years old.

The pencil slat manufacturers claimed that oil from this second growth cedar would be unsatisfactory for commercial purposes, and, as a matter of fact, the records of essential oil dealers show that for many years this type of cedar wood oil had to be sold at lower prices. Gradually, however, the wood from rails and log cabins was consumed, the cedar pencil slat business declined, and the oil had to be distilled more and more from sawdust of younger trees. There are still a few slats produced but only on a small scale and, as far as the writer knows, none of the mills now producing pencil slats have any equipment for distilling the oil. Their sawdust is usually mixed with dust from other wood products, and there is not enough of it to justify installation of the equipment.

To resume, oil of cedar wood is today distilled almost exclusively from shavings and refuse obtained in the processing of boards and shingles for cedar chests, wardrobes, dressers and closet linings; also for wine coolers, ice buckets, pails and so forth.

As the red cedar tapers considerably with height, the felled trees are first cut into logs about 8 feet long, this being the size most convenient for sawing boards. In order to bring the waste wood to a size suitable for distilling, it is fed into hogging machines, grinders and hammer machines, reduced to dust, and blown into the stills.

The distillery of the most important cedar wood oil producer[2] comprises sixteen galvanized iron stills, each ten feet high and six feet wide, and each insulated with heavy wooden jackets. The pressure in the steam generator is about 150 pounds, but the live steam entering the stills is reduced to only a few pounds pressure. Distillation of one batch of chips and dust lasts ten to twelve hours. Oil and water separate in a large Florentine flask. The distillation water is then run from the Florentine flask into a large tank where, after cooling and settling, it separates a small quantity of very heavy red oil.

Analyzing a sample of this red oil, we found the constants tabulated below.

These data are interesting mainly from the theoretical point of view; practically, the red oil recovered from the distillation waters has little value either in itself or as a source for a rectified cedar wood oil.

The yield of normal oil from fresh chips and dust is 2 to 2.5 per cent. It is claimed that the yield should really be 3 per cent, but this seems almost impossible to obtain in actual practice. The distillers say that long exposure of the sawdust to sunlight reduces the oil yield, very likely by evaporation. On the other hand, exposure of the sawdust to moist atmosphere also results in a lower yield of oil, probably due to fermentation. Such oil is cloudy, discolored, and lacking in the typical cedar wood character. Sawdust should, therefore, always be distilled as fresh as possible.

According to Huddle[3], virgin cedar yields about 3.5 per cent of oil and sap cedar (small trees of recent growth) less than 1 per cent. The larger the proportion of sapwood, the lower the percentage of oil, provided the whole log is distilled. Heartwood from either sap cedar or virgin cedar contains approximately the same amount of oil.

Constants of Cedar Wood Oil

SHIPMENTS of genuine cedar wood oil (*Juniperus virginiana* L.) which we received during the last five years showed the constants in the table on the following page.

Specific Gravity at 15°C.	0.979
Optical Rotation	Too dark
Refractive Index at 20°C.	1.5090
Cedrol Content	32.6%
Solubility at 20°C.	Soluble in 0.5 volumes of 90% alcohol and more.
Odor	Not as soft and smooth as that of regular cedar wood oil, but slightly stronger because of the higher cedrol content.

Redistillation of the red oil with steam gave 42 per cent of a white oil and a viscous, red residual oil which showed the following properties:

	White Oil	*Residual Oil*
Specific Gravity at 15°C.	0.952	1.008
Optical Rotation	—36°56′	Too dark
Refractive Index at 20°C.	1.5041	1.5190
Cedrol Content	11.2%	53.3%
Solubility at 20°C.	Cloudy in 10 volumes of 90% alcohol and more.	Soluble in 7.0 volumes of 90% alcohol and more.
Odor	Lacks the characteristic woody note of normal cedarwood oil.	The oil possesses a pleasant, soft cedrol note.

[1] *Amer. Perf.* 23, Feb. 1929, 727.

[2] To Mr. A. L. Foster of George C. Brown & Company, Greensboro, N. C., the writer expresses sincere thanks for the courtesy and assistance extended to him during his visit to the cedar oil producing regions.

[3] *Ind. and Eng. Chem.*, Ind. Ed., Vol. XXVIII, Jan. 1936, p. 18.

Specific Gravity at 15°C.	0.951 to 0.960
Optical Rotation	—28°28′ to —35°39′
Refractive Index at 20°C.	1.5030 to 1.5059
Solubility at 20°C.	Sometimes soluble in 8 to 10 volumes of 90% alcohol; often 0.5 to 3.5 volumes of 95% alcohol are required to yield a clear solution.
Remarks:	The higher the specific gravity and the refractive index, and the lower the optical rotation, the greater is the content of cedrol in the oils and the less the content of cedrene.

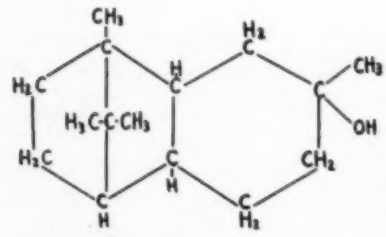
Double rectification of the crude oils, as carried out in our Clifton factory, gave oils which varied between the following limits:

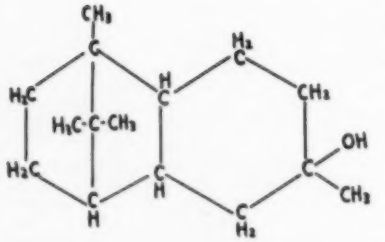
Specific Gravity at 15°C.	0.938 to 0.952
Optical Rotation	—36°29′ to —50°55′
Refractive Index at 20°C.	1.5024 to 1.5052
Solubility at 20°C.	Soluble in 3 to 6 volumes of 95% alcohol and more.

The color of these rectified oils is water white, clear.

Chemical Composition

THE most important constituent of cedar wood oil is cedrol, a tertiary tricyclic alcohol of the empirical molecular formula $C_{15}H_{26}O$. It is not the purpose of this paper to go into details of the early investigations on this interesting alcohol and its corresponding sesquiterpene, cedrene. Semmler and collaborators[4] and, later, Ruzicka and Van Melsen[5] established the structure of cedrene and cedrol in principle. According to Treibs[6], cedrol possesses either of the following structural formulas:





The physical constants of cedrol are:

m.p.	86 to 87°C.
b.p. at atmospheric pressure	291 to 294°C.
b.p. at 8 mm. pressure	157 to 160°C.
$d\frac{20°}{4°}$	1.0056
[α] D	+9°31′ (in chloroform solution)
$n_{D20°}$	1.4824
mol. refr.	66.46

Cedrol frequently separates from cedar wood oils in the form of silky white crystals. The odor is soft, pleasing, of faint cedar wood character and very persistent.

This "cedar camphor" was observed in the oil as far back as 1841 by Walter[7]. In 1895, Messrs. Schimmel & Co. stated that old cedar wood yields a semisolid oil with crystals of cedrol, and expressed the belief that the latter is not a normal constituent of the fresh wood but is formed by aging of the wood. For years the Schimmel chemists tried to prove the presence of cedrol in cedar wood oil, but in vain. Gildemeister and Hoffmann[8] conclude that cedrol seems to form in cedar wood chips or sawdust which, previous to distillation, had been exposed for some time to the influence of air, probably humid air.

That this opinion is erroneous was proven by Rabak[9] in the course of a detailed investigation. Rabak found that the oil distilled from sawdust, a by-product in the working of fresh cedar logs, almost invariably became semisolid with crystals of cedrol, even at room temperature, and upon refrigeration turned into a solid, buttery mass. Oil distilled from the waste resulting from old cedar fence rails and old stumps, on the contrary, could not be made to yield crystalline cedrol, even by refrigeration. In order to determine the percentage of cedrol in cedar wood oil, Rabak devised a simple and practical method for its separation which is based on the insolubility of cedrol in cold dilute alcohol.

One hundred parts of oil are agitated vigorously with six parts of 65 per cent alcohol for one to two minutes. Sudden and complete solidification of the emulsion thus formed usually results, if the oil contains a sufficient quantity of cedrol. If not, solidification may be accomplished by adding a small quantity of crystalline cedrol to the emulsion, then placing it in a refrigerator for several hours. The solidified mass is thrown upon a force filter; the fine silky crystals are washed with a few drops of cold 98 per cent alcohol, and the dry crystals weighed. The cedrol may be purified by dissolving it in hot alcohol, then cooling and filtering the mass.

From an examination of several samples, Rabak concluded that commercial oils distilled from freshly cut wood contain about 12.5 per cent of cedrol.

According to Rabak, there exist two distinct sources for the production of crystalline cedrol:

1. Oils distilled from fresh cedar wood waste afford a considerable quantity by means of the simple and inexpensive method described above.
2. The kilns used for drying the large quantities of cedar lumber employed in the manufacture of cedar chests afford another source of supply. The vapors escaping from these drying kilns, if properly concentrated and condensed, will yield large quantities of cedrol that are now entirely wasted. The kilns are frequently festooned with these crystalline substances in crude form. When lumber dried in the kilns is distilled, the oil obtained contains

[4] *Ber. d. Deut. Chem. Ges.* 40 (1907), 3521; 45 (1912), 355, 786, 1553.
[5] *Liebigs Ann.* 471 (1929), 40.
[6] *Ber. d. Deut. Chem. Ges.* 68 (1935), 1041.
[7] *Liebigs Ann.* 39 (1841), 247.
[8] *Die Atherischen Ole*, 3d Ed., Vol. II, 270.
[9] *Op. cit.*

but little cedrol, since a large portion has been removed by the drying process. At ordinary temperatures, such oil is liquid and even when refrigerated fails to deposit crystals of cedrol.

Another method for obtaining cedrol is the proper fractionation of oils rich in this compound.

Aside from cedrol, there exists in cedar wood oil another oxygenated compound, cedrenol. According to Semmler and Mayer[10], it is a primary sesquiterpene alcohol of the empirical molecular formula $C_{15}H_{24}O$.

b.p. at 9.5 mm. pressure	166 to 169°C.
d^{20}°	1.0083
$\alpha D20°$	±0°
$n D20°$	1.5212

The same authors[11] found in cedar wood oil also a saturated tertiary alcohol, $C_{15}H_{26}O$, which they called "pseudo cedrol." Chemically it is identical with cedrol but physically an isomere.

b.p. at 10 mm. pressure	147 to 152°C.
d^{20}°	0.9964
$\alpha D20°$	+21.5°
$n D20°$	1.5131

The principal constituent of the non-oxygenated compounds in cedar wood oil is cedrene, a tricyclic sesquiterpene of the empirical molecular formula $C_{15}H_{24}$. Fractional distillation of cedar wood oil yields 60 to 70 per cent of cedrene. Semmler and Spornitz[12] and later Treibs[13] showed that natural cedrene, as isolated from the oil, contains a small quantity of an isomeride which is absent or present only in traces in the synthetic cedrene. Otherwise, natural and synthetic cedrene are identical. The latter can be obtained from cedrol as well as from its physical isomeride, "pseudo cedrol," by the action of formic acid, whereby water is split off. Natural cedrene has the following constants:

b.p. at atmospheric pressure	262 to 264°C.
b.p. at 12 mm. pressure	123 to 126°C.
d^{15}°	0.935 to 0.938
αD	−47° to −61°
$n D20°$	1.501 to 1.502

Regarding the structure of cedrene, see also the above described formula of cedrol, as established by Ruzicka and Van Melsen[14] and by Treibs[15].

[10] *Ber. d. Deut. Chem. Ges.* 45 (1912), 786.
[11] *Ibid.*
[12] *Ber. d. Deut. Chem. Ges.* 45 (1912), 1553.
[13] *Op. cit.*
[14] *Op. cit.*
[15] *Op. cit.*
[16] *Jour. Tennessee Acad. of Science*, 1938, pp. 259-267.

Small Cedar Saw Mill in the Woods

Fractionation of Cedar Wood Oil

HUDDLE[16], studying the conditions for successful fractionation of this oil, emphasized the desirability of an inert atmosphere, a pressure low enough to permit a maximum temperature of the still content not exceeding 145°C., and the selection of refractive index as the most suitable physical constant to use in cutting fractions. Huddle expressed the hope that by plotting the volumes of the various fractions against their refractive indices, it might be possible to establish the limits within which the constants should fall for any fraction of commercial oils, thus determining their authenticity. The lowest boiling fractions from each distillation had a distinct odor of the leaf oil.

Analysis of Cedar Wood Oil

BECAUSE of the relative abundance and low cost, cedar wood oils are seldom adulterated. An analysis should be carried out, however, to ascertain whether or not the material is of good quality. For this purpose determination of the specific gravity, optical rotation, refractive index, and solubility usually suffices. The analysis should be supplemented with a careful study of the odor of the oil.

(*Turn to Page* 109)

Left—Stills in Cedar Wood Distillery

Right—Sawing Cedar Wood in the Mill

INSECTICIDE SUPPLY OUTLOOK

A summary of the raw material situation from the angle of agricultural insecticides

By P. H. Groggins*

Chief, Chemicals Division,
Food Production Administration,
U. S. Dept. of Agriculture

ADEQUATE facilities exist in the United States to produce all the insecticides we need. The supply of insecticides and fungicides, however, will depend on availability of raw materials and imports. It is expected that the supply will suffice to take care of our commercial crops and Victory Gardens. We will not have enough of certain preferred insecticides such as rotenone and pyrethrum to meet all demands, but through the appropriate use of extenders and substitutes, we should be able to protect crops from serious insect infestations.

Insecticides and fungicides are merely technical names for plant medicinals. When insect infestations occur it is necessary to have an adequate supply of the right medicinals on hand to control the epidemic. It is too late when the infestations occur to start manufacturing medicinals. They must be on hand.

From an economic point of view it appears that war agencies must recognize an obligation to farmers in assuring supplies of essential chemicals. After a farmer invests in land, seed, fertilizer and labor to bring a crop into existence, it would appear that every effort should be made to supply the chemicals needed to protect the crop against insect infestation. The availability of chemicals means greater farmer income, but most important of all, it means bigger and better crops for our war effort.

Rotenone

Before our entry into the war about 60 per cent of the supply of rotenone roots came from the East Indies. Immediately after Pearl Harbor, trade agreements were negotiated with Peru and Brazil to encourage the production, collection and exportation to us of rotenone bearing roots such as timbo, cube and barbasco. As a result of these agreements we have witnessed a steady flow of material from the other Americas but the supply has been inadequate. It is well to remember that in 1941 we used about 8,500,000 pounds of rotenone roots. In 1942, owing to restrictions in Conservation Order M-133, we used about 6,500,000 pounds.

This year it is estimated that close to 3,000,000 pounds will be available to meet the requirements of the crops and uses as set forth in amended M-133. It is fully expected that the primary responsibility of the War Production Board and the Food Production Administration to meet these requirements will be met. It is also likely that a slight surplus may exist to take care of requests for relief, particularly for asparagus and berries. The Food Production Administration and the War Production Board have organized a working committee to scrutinize appeals and favorable consideration will depend on the importance of the crop and the availability of substitute insecticides.

Pyrethrum

Pyrethrum also comes from distant sources, particularly from Kenya, West Africa. It is well to emphasize that our supplies have not fallen off appreciably. The difficulty insofar as agriculture is concerned is that the War Department is now the principal claimant although in peace time our armed forces consume negligible quantities of pyrethrum. It is well to recognize that pyrethrum is indispensable to our soldiers in controlling malaria and typhus. Consequently, the bulk of our pyrethrum is reserved for war purposes and only a limited quantity is available for agriculture. In order to conserve the available supplies of pyrethrum for the most important agricultural uses, the allotment to agriculture will be allocated to specific crops and uses in accordance with the provisions of a new F.P.O. order.

Nicotine

Thanks to the foresight of the Department of Agriculture, our supplies of nicotine insecticides are ample. The U. S. Department of Agriculture, during the fiscal year 1941-43, arranged for the production of about 1,800,000 pounds of nicotine sulfate through a tobacco diversion program. This, added to the quantity ordinarily obtained from tobacco wastes, should to a large extent supplement our supplies of organic insecticides. It is ap-

* Report before the Agricultural Insecticide & Fungicide Assn., Hotel Biltmore, New York, April 15, 1943.

propriate to remember that American farmers and gardeners have used nicotine insecticides about half a century and are familiar with their use. It is reported that nicotine compounds will be used in conjunction with other economic poisons in the manufacture of mixed dusts which may find wide acceptance for home gardens.

Organic Thiocyanates

Certain organic thiocyanates have come into general use in sprays of the household and cattle spray type where they are used alone or to extend or increase the toxicity of pyrethrum or rotenone. They have also been used to combat insect pests of vegetable crops. Within the last two or three years, tests have been made to determine their value in increasing the toxicity of pyrethrum or rotenone dusts in the control of certain insects, principally the pea aphid, cabbage worm and Mexican bean beetle. The evidence as to the value of adding organic thiocyanates to dusts is conflicting, some workers obtaining increased toxicity while other workers indicate no increase in toxicity of the mixed dusts, but rather a definite loss of toxicity in mixtures prepared for several months. They have also obtained injury to some plants from the thiocyanate - rotenone dust mixtures. Unquestionably, there will be a tremendous increase in the production and use of organic thiocyanates to control insects.

Arsenic

The supply of arsenicals will be limited by the amount of arsenic that can be made available. Every effort is being made to (1) bring in marginal production, (2) utilize wastes, and (3) import crude material. It is believed that the supply of arsenicals for insecticides will be at least as great as any previous year despite the requirements of the Chemical Warfare Service. In order to provide the necessary insurance, the sale of arsenical insecticides for use on lawns, trees and ornamentals is being controlled so that enough will be available for the control of insects on foods and fibers. It is expected that the supply of lead arsenate will be equal to that used in 1942 for purposes other than luxury uses such as shade trees, lawns and ornamentals.

The supply of calcium arsenate will be the greatest ever. Although it is ordinarily difficult to predict the demand for this insecticide, it is reasonably certain that increased cotton acreage, coupled with the requirements of crop insurance, will make the demand heavy.

Cryolite

Cryolite has been used extensively in the past for the control of the sugar cane borer, the tomato pin worm, the lima bean pod borer, and for the control of caterpillars on lima beans and snap beans. It is also used as a partial substitute for rotenone on a number of crops.

Our supplies of cryolite will be much greater than ever before. It appears that we will have approximately 15,000,000 pounds of insecticide quality cryolite this year, compared with only 6,000,000 pounds during 1942. This is fortunate in the light of the great need for arsenicals.

Cryolite can be used advantageously on shade trees and ornamentals, for the control of the coddling moth on apples and pears, and as a partial substitute for arsenicals in combatting many insects.

Barium Fluosilicate

The use of barium fluosilicate will be greatly increased this year. Fluosilic acid has become available as a by-product of superphosphate production and supplies are relatively easy.

Copper Fungicides

Copper fungicides should be available in quantities to meet the genuine needs of both commercial crops and Victory gardens. Copper is one of our most important strategic materials and allocations for the production of fungicides are made only after agriculture's requirements are carefully scrutinized. It is to be emphasized, therefore, that although the supply of copper compounds will be the largest in history, every effort must be made to conserve supplies.

Potatoes, tomatoes, and fruit trees will consume about 75,000,000 pounds of copper sulfate. Considering the need of these foods in our civilian and military diet, it is clear that every reasonable effort should be made to reduce to a minimum the crop losses caused by plant diseases.

Conservation

It cannot be emphasized too strongly that farmers should make every effort to conserve supplies of sprays and dusts. Farmers are familiar with the general methods of conservation such as (1) choosing the proper time of application, (2) lowering the concentration of the insecticide, (3) using less dust or spray per acre, and (4) reducing the number of applications.

The Food Production Administration is not suggesting that unnecessary risks be taken, but it does strongly recommend that any wasteful practice be eliminated. Wars are fought with chemicals. We must not waste them.

Distribution Plans

Few farmers realize the amount of work that has been done by industry advisory committees, the War Production Board, the Bureau of Entomology and Plant Quarantine, and the Food Production Administration, in planning programs for the orderly production and distribution of insecticides and fungicides. It should be emphasized that the present over-all satisfactory supply situation is to be traced to plans and activities initiated one or two years ago. Through the foresight of leaders of the insecticide and fungicide industry and government, the situation on insecticides now appears hopeful if not entirely satisfactory.

With respect to a number of insecticides, detailed production schedules for each plant have been worked out so as to insure adequate supplies of each type of certain types of insecticides. Furthermore, plans for distribution are based on maintaining considerable flexibility in order to meet critical insect infestations wherever they may occur. In the case of calcium arsenate, about 50 per cent of our anticipated requirements are being de-

(*Turn to Page* 107)

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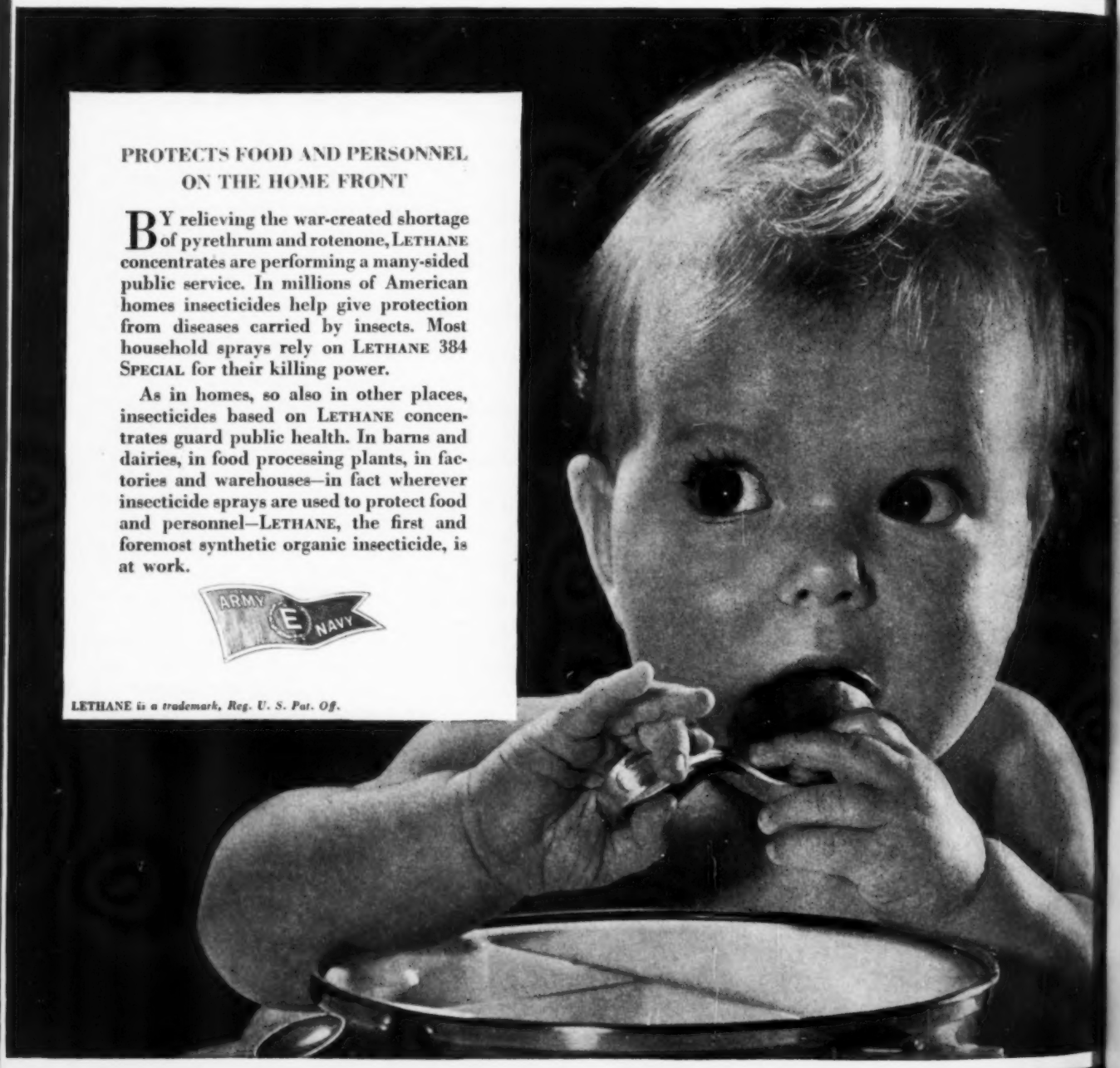

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War Time Problems of the

PEST CONTROL OPERATOR

An Interview with

William O. Buettner

Secretary, National Pest Control Assn.

THE pest control industry has been handicapped very seriously over the past year and a half by conditions of war-time operation. Raw material shortages have seriously embarrassed the pest control operator ever since war broke out, first with sodium fluoride, then rotenone and pyrethrum, later sprayers and squill, and many other essential exterminating tools becoming progressively shorter in supply. The situation has been further aggravated by the man-power shortage, and by restrictions on use of automobiles, the net effect being to reduce sharply the activities of many firms, and in particular to make it almost impossible to plan future operations with any degree of certainty.

Further intensifying the problems of the average firm, have been the many faulty trade habits that have long plagued a large section of the industry. Lack of sufficient capital or credit standing has for years been a common weakness of many a pest control firm, and it has proved a costly weakness under recent conditions of operation. With scarce raw materials in demand by an over-supply of buyers, it might have been anticipated that the limited stocks would go to firms which are the best credit risks. Over the past year and a half, the common industry practices of operating with far too limited stocks, and of ordering only at the last minute and then expecting immediate delivery, have proved to be particularly embarrassing.

The result has been, as indicated above, that many firms have had a very hard time over recent months, some firms have gone out of business, and still more will be forced out before the war is over. It has been among the one-man firms that the mortality rate has been highest, particularly where the "one man" has been within the military service age bracket. We have an idea that many such operators have breathed a sigh of relief when summoned for induction, philosophizing that at least there would be no more shortage of pyrethrum or sprayers for them to worry about once they were in uniform. Arrangements have been made in some cases for other firms to take over the clientele of inductees, for the duration, and in other cases wives or others are attempting, with some degree of success, to keep businesses going.

Perhaps the most serious problem that the indsutry has had to face over recent months has been the manpower shortage. Pest control operation has never been known as a particularly highly paid field, and in the face of competition from high-paying war industries for the available free labor supply, it has been inevitable that there would be a shortage of recruits for pest control jobs to fill the gaps caused by loss of many employees to the armed services.

To some of those outside the industry it would seem that the logical course would be to employ women as replacements, and in fact, attempts have been made along these lines. In general, however, such experiments have not worked out with any great degree of success. In the first place, those within the industry have long known that the average housewife would rather tell her insect problems to anyone,—except to another woman. She does not want another female rummaging through her closets, checking up on bugs in her beds, ants in her pantry, rats in her basement, etc. A further drawback is that the average woman is not strong enough for pest control work. Contrary to another popular belief among the uninformed that the PCO comes in, goes "puff puff," and then departs, the true story is that there is considerable heavy work to be done, such as tossing mattresses around, moving furniture, dismantling bedsteads, lifting manhole covers, climbing into coal bins, etc., for which the average woman is not at all suited physically or by inclination. Similarly work in defense plants, camps, fumigation of ships, etc., do not lend themselves to handling by women.

Further complicating the labor picture has been the enforced reduction in use of cars and trucks. Experienced operators have had to spend too much of their time reaching the job, and even though special consideration in allocation of extra gas, recaps, etc., has been given to the industry, there has been nothing resembling the facility of operation under pre-war conditions. A particular hardship has been the inability to plan ahead with any certainty.

The National Pest Control Association has been active in bringing the industry's case to the attention of the War Manpower Commission, and has been given informal assurance that some consideration would be shown to the industry in the matter of essential status. As a matter of fact, a definite ruling along these lines is

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anticipated momentarily. Whether it will cover the entire personnel of the industry, or whether certain distinctions will be made among fumigators, exterminators and termite operators does not yet seem clear. It would seem logical to expect, however, that the special status of the industry will be recognized and that some consideration will be given to its needs. The chaotic conditions that would inevitably follow if the industry's continuing fight against insects, rodents, etc., were interrupted, seem to be sufficient guarantee that those in charge of the national welfare will not let this happen.

TURNING from the manpower problem, to the equally acute problems of raw material and equipment shortages, perhaps the most serious raw material supply problem is on pyrethrum. Pest control operators have been getting very little consideration on pyrethrum supplies over recent months. We recognize, of course, that a severe shortage exists, but question in some cases whether the best possible use is being made of such supplies as have been received. There is no doubt in the minds of many experts who have followed the intricacies of pyrethrum allocation that the Army and agriculture have been getting an unreasonably large share of available material, and that the pest control industry could get along on a small percentage of what one of these two groups wastes. Food in the fields and in the warehouses is still not food on the table, and it would seem to be vitally important to safeguard food supplies all along the line right down to the actual point of consumption.

Being cut off completely from supplies of rotenone has created further problems. The pest control operator was, before the war, a small but steady user of rotenone, to combat dog tick infestations, and to aid in clearing up tough bedbug cases. The shortage of thallium sulfate has also added further problems. Very little of this essential exterminating material is being received by the industry, the major portion of thallium sulfate produced in the United States going to the west coast for agricultural uses.

As a partial answer to the shortages of pyrethrum and rotenone, it was hoped for a time that some relief might be obtained from expected developments in synthetics. Inert dusts impregnated with synthetic toxics were thought to be the most promising answer to shortages in the naturally occurring insecticidal raw materials. Unfortunately, up to this point, little has been worked out in this direction that has been of much practical benefit to the pest control operator. A number of materials of this general type have been tried, but in each case there have been drawbacks. Many operators have complained that the new preparations were irritating to their skins, and housewives have complained about the odor of some combinations when used in close proximity to food. Both objections may be entirely psychological, and may later be overcome, but for the moment they exist and stand as a barrier to developments along this line. As existing shortages grow more acute, such objections of course may lose some of their present validity.

On sodium fluoride, a situation which was formerly quite acute has now been pretty well cleared up thanks to the work which has been done to establish the serviceability of sodium silicofluoride as a satisfactory substitute. It is reported to be a little harder for the operator to work with, being somewhat more irritating in its effect on the nasal tract, but in every other respect it seems to be functioning as a very satisfactory replacement.

Problems still exist on squill, even though the supply situation has definitely improved over recent months. Recent arrivals seem to be running lower in toxicity than pre-war shipments of squill, and are sufficiently lower in many cases to impair seriously the usefulness of the material in rodent control. It is particularly important for the pest control operator to have an accurate report on the mg/kg strength of the squill he receives, so that the baits can be made up of sufficient strength to do a complete killing job. It has been difficult up to this point to get such information on recent shipments.

The outlook on supplies for the firm specializing in termite control work is considerably brighter than for the general line exterminating and fumigating company. Most of the chemicals commonly used in treating termite infestations, although scarce, are obtainable under certain conditions. They include orthodichlorbenzene, creosote oil, naphthalene, and certain poisons. Arsenic preparations, of course, such as sodium arsenite, are under allocation. It must be kept in mind, too, that the busiest season on termite control work is only under way, and the heaviest drain on supplies for this season's work is just starting.

Another of the miscellaneous items, which might seem unimportant in itself, but without which the fumigator cannot safely operate, is masking tape, for sealing doors, windows, etc. Stocks are practically unobtainable except for high priority work, and the operations of the average fumigator have thus been seriously restricted.

A further possible source of trouble for the PCO was promptly recognized when meat rationing came in a few weeks back. The pest control operator is a substantial user of fresh meat and fish for baits, and of course rats eat nothing but the better grades such as chopped meat and canned salmon. Prompt application was made to the proper authorities to secure consideration for the needs of the industry which was accorded special status as an industrial consumer.

The most worthwhile word of advice which could be given to the entire industry is a reminder that some of its past faults of operation are in a large measure responsible for its present unfortunate position as a neglected consumer in a sellers' market. Failure properly to organize one's business, failure to plan well in advance, to anticipate future supply needs, to move well ahead of time to get necessary government authorizations, etc., have been very costly failings over the past year or two. They will be even more costly over the months to come for the firms who have still not yet learned their lesson.

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Insecticidal Possibilities in the

YAM BEAN SEED

IN the search for insecticidal raw materials to supplement meager current supplies of pyrethrum and rotenone, attention is being given to the possibilities of Chinese yam bean seed in work being done at the New York State College of Agriculture, Cornell University, Ithaca, N. Y., under the direction of Roy Hansberry, associate professor of insect toxicology. Samples tested so far have shown marked toxicity, but the prospect of getting any substantial quantities of this material are open to serious question.

It is reported that several thousand acres of the plant are under cultivation in Mexico, but in other Central American republics the plant is apparently limited largely to small local gardens. Investigation indicates that the plant will develop and bear mature seeds in Florida, although it is reported doubtful that a commercial crop of seeds can be produced there. The results of trial plantings, which have recently been made, will have to be awaited before any definite hopes can be placed in help from this quarter.

The yam bean, so-called because of its yam-like tuberous roots, belongs to the genus, *Pachyrrhizus*. The tubers are edible, but the seeds are poisonous. The most intensive culture at present seems to be in Mexico, China and the Dutch East Indies. In Mexico the plant is called *jicama de agua* or *jicama de leche*. A recent bulletin from the New York State College of Agriculture offers the following comments on possible insecticidal value of yam bean seed.

"Since a sample of yam bean seed from China was shown to be toxic to silk worm larvae and several other insects, a project has been undertaken at Cornell University to examine the Western Hemisphere species and variations of *Pachyrrhizus* for their insecticidal properties. At the date of writing, 10 samples of seeds from Central and South America and from China have been examined, all of which showed marked toxicity. The standardized test for evaluation of the toxicity of the yam bean consists of dusting 100 third and fourth instar Mexican bean beetle larvae with a dust consisting of 20 parts ground yam bean seed and 80 parts inert carrier. Quadruple samples of 25 insects each are run. Under such test conditions, mortality at the end of four days generally is close to 95 per cent. However, larvae are semi-paralyzed within a few hours after dusting and although they lie moribund for several days, there is no feeding or other activity. This type of test has been run with each sample of yam bean received. So far no sample has been low in toxicity.

"Other insecticidal tests have been made with cattle lice, (*Solenopotes capillatus*) Colorado potato beetle, Black bean aphid, silkworm, milkweed bug, codling moth, cabbage looper, and imported cabbage worm. The yam bean is not toxic to all of these species. In general its specificity is similar to that of rotenone insecticides. There are, however, some surprising differences; for instance, Colorado potato beetle larvae are very susceptible to cube root, both as sprays and dust. A 10 per cent yam bean dust gives 100 per cent kill of these larvae in less than a day, but sprays containing up to 8 lb. of ground yam bean per 100 gallons were less effective than 1 lb. of 5 per cent cube root in spray. There are also indications with other insects that the yam bean is more effective when used as a dust than as a spray.

"Plans for testing in the immediate future include small scale field tests on truck crops in the southern United States and laboratory tests against vegetable insects in several laboratories. The United States Bureau of Entomology and Plant Quarantine is cooperating in this work.

"It should be made very clear that the yam bean is not now considered a rotenone insecticide. Although considerable work has been done, no one so far has separated and positively identified crystalline rotenone. However, the yam bean gives a positive test for rotenone with the common colorimetric methods of analysis. Most solvents extract from 26-40 per cent of material from the yam bean. Only alcohol yields more than 30 per cent extract. Of these extracts about 26 per cent of the total bean is an oil fraction. Not more than 2 per cent of the total bean (6-7 per cent of the extract) is resinous in nature. Only the resin fractions give any positive colorimetric reaction, indicating the presence of rotenoids. The Goodhue modification of the Gross and Smith colorimetric method which indicates mainly rotenone and deguelin, gives from .1 to .15 per cent, which is approximately equal whether the resin fraction or the total extract is analyzed. The Meyer test, which indicates total resinous rotenoid material averages from 1 to 2 per cent.

"There is, therefore, no simple chemical method for evaluating the toxicity of different strains. Several varieties so far examined chemically and toxicologically have been surprisingly similar, and it may be that larger differences in toxicity would be reflected in either the Meyer or Goodhue test.

"If yam bean offers some promise of relieving a serious rotenone shortage in 1944, it is necessary to know immediately the following things:

1. Is the toxicity really high enough to justify the importation of the bean for use as an insecticide.

2. How many acres of beans are grown in the neighboring Latin American republics; what is the potential yield per acre; can a crop of beans be matured without

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materially reducing the yield of tubers; what is the probable price for which these beans could be sold?

3. How many varieties, species and strains occur and where are they native? What is the relation of toxicity to morphological variation?

4. Will the plant produce seeds in the Southern United States in sufficient quantity to make it an agricultural possibility?

"In order to accomplish these aims, the cooperation of many people is necessary. Correspondence concerning the botany and culture of the genus may be referred to Dr. R. T. Clausen, Department of Botany, Cornell University. Dr. Roy Hansberry, Department of Entomology, Cornell University, is working on the toxicity of the bean to insects and can furnish samples for insecticidal testing. The chemistry of the bean is being investigated by Dr. L. B. Norton, Division of Chemistry, New York State Experiment Station, Geneva, N. Y. He will welcome any contributions or questions concerning his angle of the work.

"If the 1943 crop of bean seed is to be harvested for use as an insecticide in 1944, at least partial answers to the first two questions must be obtained by June, 1943. About that time it is hoped that a conference can be arranged so that, if it seems advisable, steps can be taken to obtain a maximum amount of seed for use in insect control in 1944."

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Pyrethrum on Roaches

"The Activating Effect of Pyrethrum on the German Cockroach" is the title of an article by John M. Hutzel of Ohio State University in the December, 1942, issue of the *Journal of Economic Entomology*. The article describes four methods to record the initial effect of pyrethrum on treated roaches. The results of the tests were said to bear out the fact that pyrethrum has a unique activating effect on the roach, superior to that shown by rotenone, thiocyanates, etc. Pyrethrum tends to drive them out into the open where they become exposed to lethal doses. In a second paper on the same subject the author deduces that secretions on the body of the roach moisten particles of the pyrethrum, facilitating diffusion through the system.

Pyrethrin Activators

A concentration of 3 per cent by volume of methyl phenyl nitrosamine and 5 per cent by volume of 2,4-diamyl cyclohexanol in refined petroleum oil containing 0.5 mg. of pyrethrins per cc. gave significant increases in the mortality of houseflies over that produced by the standard pyrethrin-kerosene spray. Kerosene solutions of the two compounds by themselves gave slight mortality, which shows they serve as activators for the pyrethrins. The spray solutions of methyl phenyl nitrosamine become discolored on long standing; those containing 2,4-diamyl cyclohexanol do not. E. R. McGovran and W. N. Sullivan. J. Econ. Entomol. 35, 792.

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Evaluation of Derris

The chemical evaluation of derris should be based on determination of the ether extract and rotenone. Normal content of the latter is reasonable evidence of normal insecticidal value.

The main cause of difference in analytical figures is due to sampling errors throughout and is not likely to be overcome until derris root is dried, cut into short lengths, mixed, bulked, and properly sampled in the producing country, and properly sampled on arrival overseas. The partition of the ground product into woody fiber and powder is imperative for this material. Estimations of ether extract provide an accurate means of checking sampling.

The proposed standard method of determining rotenone as given by Coomber, Martin, and Harper* is rejected as unreliable and as laying undue stress on apparatus with the omission of other points of greater importance; the apparatus they recommend has satisfactory substitutes. Standard concentrations in empirical rotenone determination are important.

Umpire methods used in the author's laboratories are outlined which give close agreement with other laboratories at home and abroad when correct samples are examined. A reasonable amount of experience is necessary to deal with all variants arising. Insistence is laid not on unnecessary specification of apparatus but on sampling and concentrations. The rotenone determination is not regarded as anything but the maximum amount which can be recovered on present knowledge. The apparatus and manipulations are merely those found convenient and are not essential to producing reasonably uniform results in different laboratories. Karl B. Edwards. *J. Soc. Chem. Ind.* 61, 192-4 (1942).

* J. Soc. Chem. Ind. *61*, 110 (1942).

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Insecticide Supply Outlook

(*From Page* 99)

livered in advance of season, according to the usual pattern of distribution; 25 per cent is being held by producers in their own warehouses; and the final 25 per cent which represents projected current production will be delivered in accordance with needs as reported by field representatives of the Bureau of Entomology and Plant Quarantine so as to provide maximum protection of our cotton crop.

Distribution Problems

One of the big problems that confronts the Food Production Administration is to arrange for the production of millions of small packages of useful insecticides to take care of our Victory garden program. Very few gardeners have thus far given consideration to the bugs and pests which will attack their crops, which they are now planning to grow. In all probability, there will be a rush for insecticides after the crops have become infested, and for this reason, it is important that dealers throughout the country have a large supply of insecticides on hand ready for immediate distribution.

Another problem which gives the Department of Agriculture much concern is the distribution of rotenone and pyrethrum to those areas where they are needed and permitted in accordance with existing conservation orders. A substantial part of available supplies may be located in areas where restricted crops are grown and it will be necessary to arrange for the transfer of such supplies to the areas where permitted crops are grown. These problems are complicated because of advance purchases for use on crops which recently have been considered as less

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essential and are not included in the list of permitted crops. Finally, there is the difficulty in arranging for a nationwide transfer of materials in accordance with provisions of maximum price regulations.

Thus far, because of elaborate and detailed plans made by the Food Production Administration, war offices and industry, farmers have been able to get the necessary chemicals to protect their crops. Distribution has been effected through our normal channels without recourse to consumer rationing. The system has functioned well. The absence of publicity is perhaps the best evidence of the fine work that has been done by those responsible for these agricultural supplies. Farmers should not, however, take too much for granted. The chemicals used in waging war on insects are also used in combat on battlefields. The fact that dusts and sprays are available is due to the foresight and activities of groups and individuals who long ago planned increased production because they recognized the legitimacy and importance of agriculture's needs.

Oil of Cedar Wood

(*From Page 97*)

Should a determination of the total alcoholic constituents be desired, the oil may be acetylated. It might be well, however, to call attention to the fact that the relatively complex alcohols in cedar wood oil are not easily acetylated nor are their esters easily saponified. This is best shown by the following data obtained in our laboratories for a normal commercial cedar wood oil.

Saponification Period	*Acetylation Period*	
	1 hour	*2 hours*
1 hour	16.4%	17.2%
2 hours	20.1%	21.3%
3 hours	22.3%	22.5%

Acetylation determines all alcoholic constituents. For the determination of cedrol alone, the method of Rabak[17], as described in the chapter on "Chemical Composition" is to be recommended.

It must be borne in mind that an analytical method based upon the actual separation of a constituent by physical means will not be absolutely accurate. However, comparative data may be obtained, provided all experimental conditions are carefully controlled. An examination of five commercial oils in our laboratories yielded crystalline cedrol in amounts of 3.6 to 12 per cent.

[17] *Op. cit.*
[18] *Ber. d. Deut. Chem. Ges.* 45 (1912), 355.

Cedar Wood Oil As An Adulterant

BECAUSE of its low price and relatively faint odor, cedar wood oil is frequently used to adulterate more expensive essential oils, for instance, patchouly, vetiver, and sandalwood. In most cases cedar wood oil can be detected by its insolubility in 90 per cent alcohol, by its high specific gravity, high boiling range, and pronounced laevo-rotation. Whenever physical tests fail, the presence of cedar wood oil can be proven chemically by submitting the suspected oil to fractionation and examination of the cedrene fractions boiling around 260°C. According to Semmler and Risse[18], oxidation with potassium permanganate yields cedrene ketonic acid (boiling range: 200° to 220°C. at 10 mm. pressure). Alkaline bromine solution or nitric acid oxidizes this ketonic acid to the solid cedrene dicarbonic acid (m.p. 182.5°C.).

Employment

RED cedar wood oil enjoys a reputation as moth repellent and insecticide; hence its use in dusting compounds and sprays. Because of its soft, pleasant and very lasting odor, the oil is employed as an efficacious fixative in perfumery and in the scenting of soaps.

Like oil of savin, red cedar wood oil has been used for the purpose of producing abortion and, in some cases, has caused death with symptoms of burning in the stomach, vomiting, coma and evidence of gastro-intestinal inflammation after death.

When evaporated to thick consistency, oil of cedar wood is very valuable as immersion oil for use with oil-immersion lenses. The refractive index of these so-called microscopic cedar wood oils should be 1.515 at 18°C.

White Cedar Wood Oil

BEFORE closing our study on red cedar wood oil, we should say a few words about a recent development which may assume considerable importance.

Some time ago, a firm in Norfolk, Virginia, started to distill cedar wood oil from the eastern white cedar (*Thuja occidentalis* L.) but, due to lack of raw material, this type of oil could not compete with the red cedar oil. With the outbreak of the war, however, the situation changed. Large numbers of white cedar trees are used in the construction of various type ships for the United States Navy. Much waste material has accumulated and is now being distilled by the above mentioned Norfolk firm. The amount of oil that could be produced is limited only by existing distillation facilities.

Two types of oil are offered on the market—the so-called oil of white cedar wood, single distilled, and the oil of white cedar wood, redistilled. Two samples analyzed in our laboratories showed the constants indicated in the table below.

Physico-chemical properties as well as odor of the white cedar wood oil are quite different from those of red cedar wood oil. However, the oil from the white cedar has a pleasant odor and it could, therefore, be used for many purposes, particularly in low priced perfume compounds.

	Single distilled White Cedar Wood Oil	*Redistilled White Cedar Wood Oil*
Specific Gravity at 15°C.	0.966	0.961
Optical Rotation	—7°22′	—9°42′
Refractive Index at 20°C.	1.5085	1.5068
Cedrol Content	37.2%	31.2%
Saponification Value	9.5	6.9
Solubility at 20°C.	Soluble in 1 volume of 90% alcohol; cloudy in 1.5 volumes; again soluble in 4.5 to 5 volumes and more of 90% alcohol.	Soluble in 0.5 volume of 95% alcohol and more; very faint opalescence in 7 volumes of 90% alcohol.

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Study New Synergists

S. I. Gertler J. H. Fales, and H. L. Haller
U. S. Department of Agriculture
Agricultural Research Administration
Bureau of Entomology and Plant Quarantine

IN a recent paper in this journal[1] it was shown that certain N-substituted piperonylamides are toxic to the housefly and when tested in combination with pyrethrins the kill was greater than was to be expected on the theory of similar and additive actions. It was also found that some of these amides, while possessing little or no toxicity in kerosene by themselves, when added to pyrethrum solutions of low pyrethrin content exerted a synergistic effect.

The substituted piperonylamides were prepared from piperonoyl chloride and the appropriate amine. To obtain further information on the relationship between chemical constitution and insecticidal action, it was deemed of interest to prepare a number of N-substituted aryl amides without the methylenedioxy group, i.e., benzamides, and to determine their toxicity to the housefly, as well as their possible synergistic action with pyrethrum. Such compounds, if effective, would be more readily accessible and would also be much lower in cost than the piperonylamides.

The compounds were prepared from benzoyl chloride and the appropriate amine according to accepted methods. In addition to benzamide the following N-substituted derivatives were prepared and tested:

N-Amylbenzamide
N-Butylbenzamide
N, N-Dibutylbenzamide
N, N-Diethylbenzamide
N, N-Di-(2-ethylhexyl) benzamide
N, N-Diisobutylbenzamide
N, N-Dipropylbenzamide
N-Ethylbenzamide
N-Isobutylbenzamide
N-Methylbenzamide
N-Propylbenzamide

The compounds were tested against houseflies by the Campbell and Sullivan turntable method in a mixture of 90 per cent refined kerosene and 10 per cent acetone by volume, and at a concentration of 10 mg. per cubic centimeter. A corresponding solution of the same concentration, containing in addition 0.5 mg. of pyrethrins per cubic centimeter, was also tested.

In contrast to the piperonylamides, none of the benzamides were toxic when tested alone.

Three of the compounds, the N-amyl, N-butyl, and N, N-dibutyl derivatives, definitely increased the toxicity of the pyrethrum solution. The N-butyl and the N-amyl derivatives knocked down some of the flies, but this effect was much less than with the pyrethrins alone.

Studies are now under way way comparing the relative synergistic properties of the N-substituted benzamides and the N-substituted piperonylamides.

[1] S. I. Gertler, J. H. Fales, and H. L. Haller. Synergistic Action of N-Substituted Piperonylamides with Pyrethrum Fly Sprays. Soap and Sanit. Chem. 19(4): 105, 107 (1943).

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Delegate Pyrethrum Control

Control over stocks of pyrethrum and pyrethrum insecticides allocated for agricultural use by WPB has just been delegated to the Administrator of Food Production and Distribution. The authority is restricted specifically to sale or use of these materials for agricultural purposes, and the WFA will have no control over such subjects as imports of pyrethrum, army or navy purchases, or non-agricultural uses.

AIFA Holds Spring Meeting

THE Spring Meeting of the Agricultural Insecticide and Fungicide Association, held at the Biltmore Hotel, New York, April 15 and 16, heard Philip H. Groggins, chief of the chemicals division of the Food Production Administration declare: "Ample insecticides will be available this year to protect all crops." He further predicted that more rotenone will be imported and that the development of pyrethrum in South America will help to alleviate the raw materials situation here. More arsenic will be available, Mr. Groggins stated. The full text of his address appears elsewhere in this issue.

The need for insecticides to protect our war crops was graphically illustrated by Dr. S. A. Rohwer, assistant chief of the Bureau of Entomology and Plant Quarantine, who pointed out that food production can be increased by the more effective use of insecticides, thus reducing or eliminating the need for more farm manpower or machinery.

That the war or problems relating to it were uppermost in the minds of association members can be readily surmised by the array of speakers from the various government war agencies. Included were: Warren H. Moyer, Chief of Insecticides and Fungicides Unit, chemicals division, WPB; Dr. George Brandow, chief economist, Agricultural Chemicals Section, OPA; J. A. R. Dalley, Chief, Chemical Section, Board of Economic Warfare; and Philip H. Groggins, Chief, Chemicals Division, FPA. Other speakers were: Dr. J. G. Leach, acting chairman of war committee, American Phytopathological Society; Dr. E. F. Phillips, chairman of war committee, Association of Economic Entomologists; Wallace S. Moreland, publicity consultant for the Association; Ernest Hart, chairman, Membership, Publicity and Public Relations Committee; W. S. Gavan, chairman, Joint Insecticide and Fungicide Committee; B. P. Webster, Container Standardization Committee and E. C. McClintic.

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NEWS . . .

Name Sprayer Industry Committee

An industry advisory committee for the spraying and dusting equipment industry has recently been named by WPB. Committee members include the following: Thomas M. Burton, D. B. Smith & Co., Utica, N. Y.; R. G. Clarke, John Bean Manufacturing Co., Lansing, Mich.; George H. Collier, Dobbins Manufacturing Co., Elkhart, Ind.; R. C. Hudson, H. D. Hudson Manufacturing Co., Chicago; W. G. Koehler, Simplex Manufacturing Co., McQueeney, Texas; R. W. Merritt, The Root Manufacturing Co., Cleveland; John L. Novak, Acmeline Manufacturing Co., Travers City, Mich.; E. P. Stilson, The Hardie Manufacturing Co., Hudson, Mich.; C. V. Schad, "Friend" Manufacturing Co., Gasport, N. Y.; J. V. Vernon, Niagara Sprayer & Chem. Co., Middleport, N. Y.; and C. D. Leiter, F. E. Myers & Brother Co., Ashland, Ohio. The government representative on the committee is K. W. Anderson.

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Heads Amer. Home Divisions

Strieder Schraffenberger has just been elected president of two subsidiaries of American Home Products Co., the A. S. Boyle Co. and Midway Chemical Co. Mr. Schraffenberger, who has been vice-president and general manager of the two companies, succeeds Walter F. Silbersack who has been elected to the new post of chairman of both Boyle and Midway. Mr. Schraffenberger joined the Boyle Company in 1926 as advertising manager, becoming sales manager in 1936. He was made sales manager of Midway when that company was taken over by American Home in 1937, and in 1941 he was named vice-president of both companies.

At the same time several additional promotions were announced by Alvin G. Brush, chairman of American Home. Ralph Hartman, division manager of the Chicago area, was elected a vice-president of Midway. Louis G. Feirtag, division manager of the Cincinnati area, was named a vice-president of Boyle. Ross Covert, Pacific Coast manager of both Boyle and Midway, was elected a vice-president of Boyle.

STRIEDER SCHRAFFENBERGER

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Amend Insecticide Color Bill

The proposed amendment to the Insecticide Act of 1910 to provide for protective coloration of poisonous insecticides, currently being considered by the U. S. Senate, the text of which was run in the April issue of *Soap and Sanitary Chemicals* (p. 116), has been further modified by the addition of one additional provision. The added clause reads as follows: "provided further that the provisions of this act shall not apply to products sold for manufacturing or noninsecticidal or nonfungicidal uses."

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Collect Petroleum Data

Insecticide manufacturers have recently been asked to supply the Chemicals Division of the Food Distribution Administration with information regarding the different types and amounts of petroleum oils used in the manufacture of insecticides. The information is said to be needed for certifying requirements to the Petroleum Administrator for War in order that the necessary amounts of insecticide base oils may be set aside for use by the industry. Data should be sent to P. H. Groggins, Chief of the Chemicals Division of the Food Production Administration, U. S. Department of Agriculture, Washington, D. C.

Reports should cover oils used for the following purposes:

1. All plant or horticultural sprays.
2. Household and mill sprays.
3. Livestock sprays.
4. Wood preservation.
5. Used in the manufacture of sulfonated oils.

The specific information on each oil should consist of the following:

a. Total number of gallons.
b. The per cent used in each of the 1st, 2nd, 3rd and 4th calendar quarters.
c. Distillation range.
d. Viscosity.
e. Other specifications.

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Col. Crowell Commands at Dallas

Col. C. W. Crowell of the U. S. Army Chemical Warfare Service, and formerly chief chemist for the Rochester Germicide Co., Rochester, N. Y., has been transferred to Dallas, Texas, and made commanding officer of a newly established district known as the Dallas Chemical Warfare Procurement District. Two former districts of the Chemical Warfare Service have been combined into one to form the new district. His present headquarters are located at 106 Ervay St., Mercantile Bank Building, Dallas. Col. Crowell was formerly stationed in Washington, D. C.

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Byrnes Joins Rohm & Haas

R. F. Byrnes, formerly in charge of the insecticide department of the General Chemical Co., New York, has joined the staff of Rohm & Haas Co., Philadelphia, and is associated with their agricultural insecticide division.

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Glyco Products Co. Moves

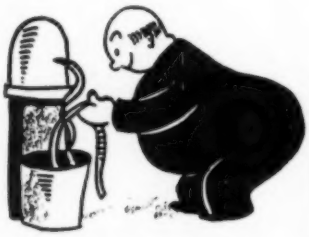
Glyco Products Co., Brooklyn, moved its offices April 15 to 26 Court Street.

REMEMBER?

10 YEARS AGO

C. B. GNADINGER GAVE PAPER ON "DALMATIAN PYRETHRUM" BEFORE AMERICAN CHEMICAL SOCIETY IN WASHINGTON

GERSON-STEWART CORP., OF CLEVELAND, MOVED ITS PLANT TO EVINS AVE., THAT CITY



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HAROLD KING JOINED W. BENKERT & CO. (NOW R. J. PRENTISS & CO.) AS VICE PRESIDENT

THE TEXTILE FOUNDATION ASSERTED THAT MOTHS WERE WINNING THE FIGHT AGAINST 600 BRANDS OF INSECTICIDES ON THE MARKET. MOTH-REPELLENT FABRICS WERE THE FOUNDATION'S SOLUTION

WILLIAM BUETTNER WAS ELECTED PRESIDENT OF THE SOCIETY OF EXTERMINATORS AND FUMIGATORS OF N.Y. AT THIRD ANNUAL MEETING

NAIDM War Meeting Moved to Cleveland

THE special War Problems Conference of the National Association of Insecticide & Disinfectant Manufacturers, originally planned for Toronto on June 7 and 8, will be held instead at the Statler Hotel, Cleveland, Ohio, on the same dates. Inasmuch as the hotel in Toronto will be taken over for a munitions conference by the Canadian War Board during the period of the planned N.A.I.D.M. meeting, a switch to some other city has become necessary. Arrangements were accordingly made to hold the meeting in Cleveland by the Association arrangements committee.

Plans for the War Problems Conference as originally made for Toronto will be carried out at Cleveland. General meeting sessions will be held each morning of the two-day meeting, June 7 and 8. Afternoons and evenings will be given over to group conferences on individual problems and meetings of committees. The sessions of the Cleveland meeting will be open to all manufacturers and distributors of insecticides, disinfectants, sanitary products and chemical specialties. In view of the character of the meeting, invitations have been sent out by the N.A.I.D.M. to a large number of non-member firms in Canada and the U. S., urging them to be represented.

Chief among the matters to be discussed will be Army and Navy requirements and facilitating production for war needs, critical and allocated raw materials and the use of substitutes, government specifications for both insecticides and disinfectants, container and packaging problems including standardization and substitutes, sanitation problems of the armed forces, freight, shipping and cross hauling, and allied problems. The program is in charge of Henry A. Nelson, of the Chemical Supply Co., Cleveland, and H. M. Clark of Dr. Hess & Clark, Inc., Ashland, Ohio. They will be assisted in making arrangements by John Powell of John Powell & Co., New York, and H. W. Hamilton of the Koppers Co., White Tar Division, Kearny, N. J. John N. Curlett, of McCormick & Co., Baltimore, president of N.A.I.D.M., has announced that a meeting of the Board of Governors of the Association will be held on Sunday evening, June 6 at the Hotel Statler, Cleveland, preceding the general meeting.

Advisory Committee Meets

Household and Industrial Insecticide and Disinfectant Manufacturers Advisory Committee of WPB met Wednesday, May 5, in the Social Security Building, Washington, D. C. Production of an adequate supply of hand sprayers for the current season was one of the chief topics discussed.

Files Protest on W P B Insecticide Committee

H. W. HAMILTON, secretary of the National Association of Insecticide & Disinfectant Manufacturers, in a recent letter to Warren H. Moyer, Chief, Insecticide Section, Chemicals Branch of the War Production Board, filed a protest on the functioning of the advisory committee of the insecticide and disinfectant industries,—known as the Household and Industrial Insecticide and Disinfectant Manufacturers Industry Advisory Committee of the War Production Board,—and the lack of action by WPB on recommendations made by the committee. His letter follows:

"A booklet has recently been received entitled 'Directory of Industry Advisory Committees,' War Production Board, Washington, D. C. Inside the front cover there is an explanation from which I quote the last paragraph:

> "The purpose of Industry Advisory Committees is to advise and make recommendations on problems of war production confronting industry, and to assist a Division in obtaining data on resources and requirements, also keep industries informed of the policies, regulations. and actions of the War Production Board.'

"The items of particular interest to the industry are, of course, (1) . . . 'to advise and make recommendations on problems confronting the industry' and (2) . . . 'keep industries informed of the policies, regulations, and actions of the War Production Board.'

"The last meeting of the Household and Industrial Insecticide and Disinfectant Manufacturers Advisory Committee, which was to have been held on March 30, was cancelled at a very late hour; in fact, some of the members of the committee had already arranged to travel many miles. It is my understanding that the meeting was cancelled because there was nothing to come before the meeting. This committee has recommended in the past that (1) package sizes be simplified during the war; (2) some provisions be made to secure at least a limited number of sprayers; (3) some steps be taken to secure increased prices to cover added cost of packaging in glass containers; (4) that the industry be kept more fully informed regarding the availability of raw materials, containers, etc. These matters are still to be acted on.

"The Industry Advisory Committee has always been cautioned to say as little as possible about the transactions at the meetings, yet in the Directory of Industry Advisory Committees, there is the statement that specifically says 'to keep industries informed on the policies, regulations, and actions.'

"Most of us have gladly given our time to promote the functions of this Committee and to my certain knowledge every individual member of the Committee for this industry is willing to do anything in his power to promote the successful carrying out of the war effort. This must be interpreted, however, in its broadest sense which includes the relationship of civilian business to the war effort.

"I think the statement contained in the booklet referred to clarifies the situation considerably and I should like to go on record as favoring the conduct of the Committee in the full spirit as outlined in the booklet."

A reply to this letter received by Mr. Hamilton from Mr. Moyer stated that he is in full accord with the aims of the advisory committee as brought out by Mr. Hamilton and offered his full cooperation in making the work of the committee of greater value to the war effort and to the insecticide and disinfectant industry.

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Prof. Exterminators Meet

Members of the Professional Exterminators Association were scheduled to meet April 21 at the Hotel Commodore, New York. The group continued their work on the study of insect identification and also heard a talk by Ernest Mills of the U. S. Biological Survey on "Developments in Zinc Phosphide Raticides." Another speaker was M. F. Oachs of Exterminating Materials Co., who discussed the meaning of mg/kg ratios in evaluating effectiveness of raticides.

L. O. Smith Commissioned

L. O. Smith, former general manager of T. F. Washburn Co., Chicago, recently completed a naval training course at Dartmouth College, which brought him a commission as Lieutenant, (j. g.), and, following a brief visit in Chicago, left on April 12 to assume duties assigned him on the west coast. Mr. Smith is a son of Claude Smith, president of the Washburn Co. Tom Smith, a second son of the president, was also in Chicago last month on furlough from the Coast Guard, in which he holds the rank of machinist, first class.

Lethane as Rotenone Extender

Rohm & Haas Co., Philadelphia, have called attention in a recent release to the possibilities in connection with the use of "Lethane" to reenforce insecticidal dusts formerly based exclusively on rotenone. They refer particularly to tests made at the Rohm & Haas farm in Bristol, Pa., several years ago, in which it was demonstrated that by incorporating 2 per cent "Lethane" it was possible to get as effective a kill on Mexican bean beetles with dusts containing only one-half the normal content of rotenone.

Set Arsenical Ceilings

Maximum prices for arsenical insecticides other than lead arsenate were established for both manufacturers and distributors in a revision of OPA Order MPR 315, issued early last month. Lead arsenate prices were covered in the original order. The new measure fixes a ceiling of 7 cents to 17 cents per pound for distributors on calcium arsenate, with the range being 7½ cents to 20 cents per pound for retail dealers. Prices within these ranges depend on the size and type of container, and size of order. On paris green, a distributor ceiling range of 20 cents to 34 cents per pound has been established, with a range of 25 cents to 44 cents per pound for retail dealers.

San. Supply Assn. Meets May 24

Marshall L. Magee, president of the National Sanitary Supply Association, advises all who plan to attend the organization's convention at the Morrison Hotel, Chicago, May 24, 25 and 26, not to neglect making advance hotel reservations. Plenty of hotel space is available in Chicago, but since the Army took over two large hotels, demands on downtown hostelries have been heavy and conventioneers frequently have to be housed in outlying hotels. Late last month a meeting was held to put the finishing touches to the convention program, but final details are not yet available.

American Home Earnings Up

The preliminary report of American Home Products Corp., Patterson, N. J., manufacturers of household products, drugs and food, showed consolidate net earnings of $1,285,154 for the first quarter of 1943, which was equal to $1.45 a share on an average of 887,331 shares outstanding during the period. Consolidated net earnings for the first 1942 quarter were $1,174,259 or $1.38 a share on an average of 852,372 shares.

Name Resin Industry Committee

An industry advisory committee for the natural resins industry has recently been named by WPB. Members are John Young of Gillespie-Rogers-Pyatt Co., A. J. Wittenberg of Stroock & Wittenberg Co., A. Scharwachter of American Cyanamid & Chemical Corp., E. H. Winter of H. P. Winter & Co., George Hauxhurst of S. Winterbourne & Co., W. A. Patterson of G. W. S. Patterson Co., and O. G. Innes, all of New York. Government representative on the committee is Wells Martin.

New 1943 O.T.I. Ready

Supplies of 1943 Official Test Insecticide for testing fly sprays by the official Peet-Grady Method are now available, according to an announcement from the office of the National Association of Insecticide & Disinfectant Manufacturers, New York. The new 1943 O.T.I. is for use during the testing year from June 1, 1943 to June 1, 1944. For official testing by the Peet-Grady Method until June 1 of this year, the 1942 O.T.I. should continue to be used.

The Official Test Insecticide, produced and distributed on a yearly basis by the N.A.I.D.M. is designed for simultaneous testing and comparison with commercial insect sprays for the evaluation of these commercial products. The O.T.I. approximates a B Grade spray, and is standardized chemically and biologically from year to year. Commercial products showing a kill against house flies within plus or minus 5 per cent of the O.T.I. are designated B Grade sprays; those showing plus 6 to 15 per cent over the O.T.I. are classed as A Grade sprays; those showing 16 per cent or higher over the O.T.I. are classed as AA Grade.

The Official Test Insecticide is available to all firms or laboratories from the National Association of Insecticide & Disinfectant Manufacturers, 110 East 42nd Street, New York. It is packed in 6 oz. amber bottles in cases of six bottles, and is priced at $6.00 per dozen bottles plus shipping charges. Instructions for use and an outline of the official Peet-Grady Test are included in each case. Orders for immediate shipment of the new 1943 O.T.I. are now being accepted.

Those who cooperated in the testing work on which the preparation of the O.T.I. is based, include A. E. Badertscher of McCormick & Co., Baltimore; N. J. Gothard and A. G. Grady of Sinclair Refining Co., East Chicago, Ind.; Dr. Alfred Weed and George Hartz of John Powell & Co., New York; Frank Nelson of Stanco, Inc., Bayway, N. J., and Dr. J. J. T. Graham, Senior Chemist, Insecticide Div., F.D.A., U. S. Department of Agriculture.

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The HUBER ELECTRO PERFECTION CRUTCHER offers a choice of four forward and reverse speeds. The flexibility in operating technique afforded by this wide choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes,—1,500, 2,400 and 3,200 pounds.

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WHICH WE CAN SUPPLY on a high priority rating, if sufficient quantity is ordered and adequate time given for making deliveries under present restrictive conditions.

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Canadian PCOs Elect

The First Canadian Pest Control Operators' Conference, held recently at the University of Montreal, Montreal, Canada, attracted an attendance of 78, of whom 14 were visitors from the United States. This being the first such conference for many of those present, attention was concentrated on fundamentals of insect structure and common control problems. A number of speakers from both the University and the Canadian Department of Agriculture addressed various sessions in the three-day program. The group were welcomed by Msgr. Maurault, Rector of the University and were invited to make the University their headquarters again next year for the 1944 conference.

On the final day of the session, the organization of the new Canadian Pest Control Operators' Association was completed. W. S. Bomby, of Ocean Chemicals, Ltd., Toronto, heads the organization, with the following serving as regional vice-presidents: A. Friedman of Superior Sanitary Service, Montreal; R. W. Menzie of Derpo Products, Toronto, and P. W. McLeod of Service Fumigating, Vancouver. Prof. E. R. Bellemare, University of Montreal, is serving as secretary of the association, and E. J. Gentle, of Hamilton, as treasurer. Members of the board of directors include W. E. Mackie, Halifax, M. A. Sanderson, Reliable Exterminators, Toronto, and C. H. Reiss, Charles Reiss & Co., Winnipeg.

Squill Arrives from Africa

Sixty tons of red squill were among the first fruits of the U. S. Army's invasion of North Africa, according to F. E. Garlough, biologist with the division of predator and rodent control of the Interior Dept.'s Fish and Wild Life Service. Speaking from Chicago, where headquarters of the Fish and Wild Life Service were recently moved from the national capital, Mr. Garlough said the red squill was found stored in Algiers and was shipped to United States in vessels returning from convoy duty. On reaching America this emergency supply was found to be of low active content and the department's laboratory at Denver, Colo., after experimenting, found a way to fortify the poison element, he reported. The department has also imported some red squill seed, Mr. Garlough stated and is experimenting at raising an ultra-poisonous strain.

Amend Insecticide Spec

Federal Specification O-I-546 for liquid household insecticide has been amended to reduce the required content of pyrethrin I. Instead of the former requirement that each 100 ml. of the product contain 0.15 gram of pyrethrin I in addition to the normally accompanying amount of pyrethrin II, the required content of pyrethrin I has been reduced to 0.10 gram.

Cole-Solv Opens L. A. Office

Cole Laboratories, Long Island City, N. Y., makers of "Cole-Solv," new household ammonia substitute, have opened offices in Los Angeles, at 5729 Herold Way. Benjamin P. Kates is in charge.

Reduce "Thanite" Price

Hercules Powder Company, Naval Stores Department, announced last month a 10 per cent reduction in the price of "Thanite," insecticide concentrate. The new price is $4.95 a gallon retroactive to March 1, 1943. Reduction in the price, the company said, has been made possible by increased production to meet the insecticide industry's demands.

Joins Chicago Florasynth Staff

H. I. Goldberg, research chemist, has just joined the Chicago staff of Florasynth Laboratories, Inc., and will concentrate on study of customers' technical problems.

Agicide Labs. Move

Agicide Laboratories, Inc., distributors of rotenone concentrate have just announced the removal of their Milwaukee plant to 1717 Taylor Avenue, Racine, Wis.

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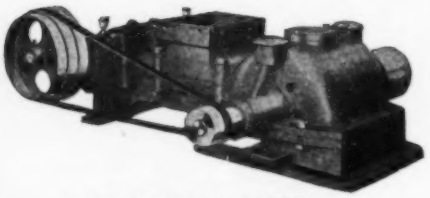
Newman's BRAND NEW Steel Steam Jacketed SOAP CRUTCHERS Sizes 1,000 to 10,000 lbs.



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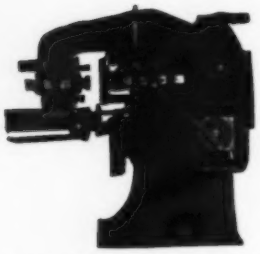

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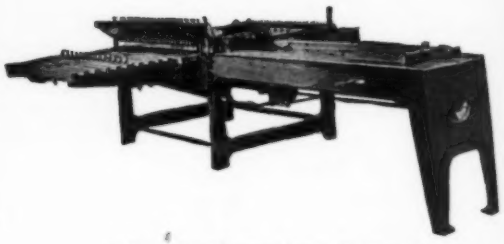

2 Automatic Power Soap Cutting Tables.

INVESTIGATE THESE SPECIAL BARGAINS

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Johnson Automatic Soap Chip Filling, Weighing and Sealing Machines for 2 lb. and 5 lb. Packages guaranteed in perfect condition.

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All used equipment rebuilt in our own shops and guaranteed first class condition.

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.

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Proctor & Schwartz Bar Soap Dryers.

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H-A 6, 8 and 10 inch Single Screw Plodders.

Allbright-Nell 10 inch Plodders.

Filling and Weighing Machine for Flakes, Powders, etc.

Steel Soap frames, all sizes.

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Perrin 18 inch Filter Press with Jacketed Plates.

Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.

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Proctor & Schwartz large roll Soap Chip Dryers complete.

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Soapmaker and Chemist wants position. Anything in the soap line. Address Box No. 518, care *Soap & Sanitary Chemicals.*

Soap Specialist—with 20 years experience desires position as superintendent, chief chemist or research chemist. Experienced in all types of soaps and glycerine recovery. Still employed. Address Box No. 517, care *Soap & Sanitary Chemicals.*

Organic Chemist Ph.D. graduate University Vienna, 10 years industrial experience in research and production of synthetics, soaps, waxes, polishes, paints, varnishes, disinfectants seeks permanent position in essential industry. First citizenship paper. Draft status 3B. Address Box No. 511, care *Soap & Sanitary Chemicals.*

Sales Executive, 38, 3A, present employed, fifteen years contact hospitals, hotels, institutions, in Greater New York; also other outstanding experiences and business education; $6,000 yearly to start. Address Box 512, care *Soap & Sanitary Chemicals.*

Man with over 25 years experience in waxes and polishes, especially self polishing floor wax, also new formula for same, based on available materials, seeks employment. Address Box No. 519, care *Soap & Sanitary Chemicals.*

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FLOOR WAX
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Play Safe—sell or recommend the 4 in 1 wherever your products are used.

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- Every square inch of the premium quality wool pad is usable. The 4 in 1 offers the best insurance that floor waxes, seals and other floor finishes are applied properly.

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4—Ralston Automatic Soap Presses.
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Crutchers	Foot and Automatic Soap Presses	Filler Presses
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goes to WAR!

Recognizing its strategic value in the control of certain insects and pests, the use of Rotenone has been restricted to the needs of the Armed Forces, the protection of a limited number of vital agricultural crops, and the control of warble fly on cattle.

Many peace-time users of Rotenone for other purposes have had to readjust their plans to get along without Rotenone, and have done this willingly, appreciating that Rotenone has an important job to do in the winning of the war.

Those who need Rotenone for the specific purposes for which it is now reserved will be glad to know that we have still available supplies of **ROTENONE** and **ROTENONE RESINS** and from time to time expect to have **ROTENONE POWDERS.**

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Specialists In Rotenone Roots and Rotenone Products
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Insecticide Materials — Young woman with 12 years experience in household and agricultural insecticide materials, shipping, sales records, general correspondence and office supervision, experienced stenographer; knows insecticide industry; desires position with future with chemical or insecticide manufacturer; New York area preferred. Box No. 521, care *Soap & Sanitary Chemicals.*

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Floor Materials: Long established, reputable and financially responsible mid-western manufacturer of floor maintenance materials is seeking a technical man with thorough knowledge of floor finishing and maintenance products to head up a program of research. Please give full particulars in first letter. Address Box No. 504, care *Soap & Sanitary Chemicals.*

Chemist—to improve and develop household pest control materials, insecticides, insect repellents, deodorants and related products. State age, education, experience, salary, draft status and attach photograph. Address Box No. 514, care *Soap & Sanitary Chemicals.*

Physicist—for practical research and development on waxes, polishes, insecticides and household specialties. Give full record of education and experience; also age, salary, draft status and attach photograph. Address Box No. 515, care *Soap & Sanitary Chemicals.*

Insecticide Man — Wanted by prominent manufacturer of insecticide materials, young man who knows insecticide materials, shipping, correspondence, sales records, etc. Good opportunity for advancement. Located eastern seaboard. Give full record, salary, etc. in letter to Box No. 520, care *Soap & Sanitary Chemicals.*

Insecticide Factory — Young man able to act as assistant manager of small insecticide plant with view to taking full charge later. Some knowledge of shipping helpful. Good opportunity in essential business with old, well-established firm. Give full details in confidence to Box No. 522, care *Soap & Sanitary Chemicals.*

Miscellaneous

For Sale: Proctor & Schwartz 5 Fan, 3 Apron Conveyor, Soap Chip Dryer, complete with Feed Apron and set of Chilling Rolls. Address Box No. 513, care *Soap & Sanitary Chemicals.*

For Sale: Soap Chips, one carload, or will exchange for Syntex "M." Address Box No. 510, care *Soap & Sanitary Chemicals.*

For Sale: H. A. 4 Roll Granite Soap Mills, 18″ x 32″; 4—Empire State Foot Presses; Jones Pin Die Automatic Press; Crutchers; Powder Mills; Cutting Tables; Slabbers; Soap Kettles 50 to 5000 gal.; Filling, Labeling and Wrapping Machinery; Pumps; Tanks, etc. Cash Buyers of Your Surplus Equipment. Brill Equipment Company, 183 Varick St., New York City.

Floor Brushes — We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

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For Sale: 2—5 Roll water cooled inclined steel roller mills, 16″ dia. x 40″ face. Foot Presses; 600 and 1500 lb. Soap Frames; Cutting Tables; Plodders, 12 x 30 and 16 x 40 Three Roll Water Cooled Steel Mills; 4 Roll Stone Mills; Dryers; Chippers; Powder Fillers; Mixers; Grinders; Filter Presses; Disc Filters; Pumps, etc. Send for Soap Bulletin No. 402. We Buy Your Surplus Equipment for Cash. Stein Equipment Corp., 426 Broome Street, New York City.

Soap in Mosquito Control

Soap sprayed on pools of standing water is effective in exterminating mosquitoes, the Association of American Soap & Glycerine Producers points out in the April issue of its bulletin on "Soap Uses in War Industries." Soap may be used as a substitute for petroleum oil or larvicides. In concentrations of 0.1 to 0.25 per cent, it reduces surface tension of still water, bringing suffocation to the pupae. Egg-laying is also interfered with. Higher concentrations (0.5 to 1 per cent) kill all mosquitoes directly. Other items in the Association's April bulletin deal with use of soap in asphalt mining and in making plastics; soap as an aid to dry cleaners, textile weavers and fruit growers. Use of soap for waterproofng leather, for making stencil paste and safe shoe creams are also discussed.

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Insecticides for V Gardens

There will be ample supplies of insecticides and fungicides to assure the success of the Victory Garden program, the War Production Board promises in a bulletin released April 19 by the Office of War Information. Some pyrethrum is being allocated for such use, in spite of limited supply and increasing military demands, says the OWI release. A limited amount of rotenone insecticides is also promised for small gardens, and an adequate supply of paris green and bordeaux mixture. The bulletin promises a greater abundance of nicotine sulfate, cryolite, arsenicals, sulfur and synthetic insecticides. It also reports that some metal spray guns are still available, and that in addition several new types of spray guns made from non-critical materials are currently being introduced.

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Exempt Small Rotenone Packages

Small packages of rotenone insecticides were exempted by the WPB from restrictions on delivery through issuance of an amended version of Conservation Order M-133 on April 17. The delivery restrictions no longer apply on powdered rotenone insecticides packaged in quantities of one pound or less and have also been removed on liquid rotenone insecticides packed in quantities of one pint or less. The amended order also provides that the WPB may at any time issue directions to processors concerning package sizes for rotenone insecticides.

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Anchor Moves L.A. Office

The Los Angeles sales office of the Pacific Coast closure division of Anchor Hocking Glass Corp. recently moved to 4855 E. 52nd Place.

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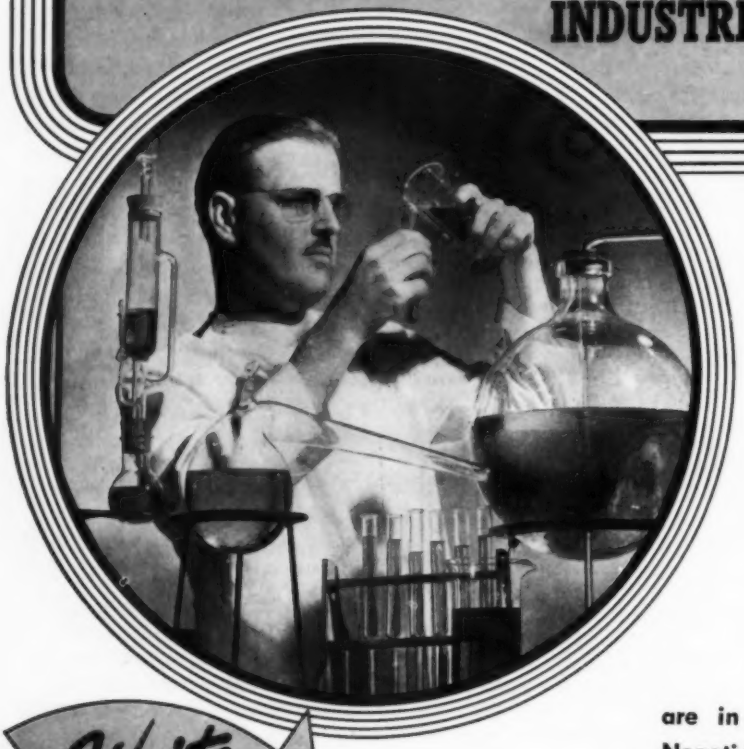

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INDEX TO ADVERTISERS

* For further details see announcement in 1943 SOAP BLUE BOOK

*American-British Chemical Supplies 108
American Standard Mfg. Co. 122
Anchor-Hocking Glass Co. 79
*Aromatic Products, Inc. ..... 4th Cover
*Associated Chemists, Inc. 86

*Baird & McGuire, Inc. 92
*Barrett Co. ..... April
*Breuer Electric Mfg. Co. 118
Buckingham Wax Co. ..... April

*Carbide & Carbon Chemicals Corp. 11
Philip Carey Mfg. Co. 110
Chemical Supply Co. 104
John A. Chew, Inc. 116
*Antoine Chiris Co. ..... April
Charles B. Chrystal Co., Inc. 66
*Cole Laboratories 116
*Columbia Chemical Division ..... April
Compagnie Parento ..... April
*Consolidated Products Co. 122
*Continental Can Co. ..... April
Cornelius Products Co. 108
Crosby Naval Stores 48
*Crown Can Co. 44

*Davis-Young Soap Co. 16
*Derris, Inc. 122
Diamond Alkali Co. ..... April
*Dodge & Olcott Co. 8, 81
*Dow Chemical Co. 46
*E. F. Drew & Co. 116
P. R. Dreyer Inc. 68

*E. I. du Pont de Nemours & Co. 36
*Eastern Industries 34

Federal Tool Co. ..... Mar.
*Federal Varnish Co. 106
*Felton Chemical Co. 15, 89
Filtrol Corporation ..... April
*Firmenich & Co. 7
Fritzsche Brothers, Inc. 40
*Fuld Brothers 3

*General Drug Co. ..... 2nd Cover
*R. Gesell, Inc. ..... April
*Givaudan-Delawanna, Inc. 12, 13
*James Good Co. 112
A. Gross & Co. 54

Hercules Powder Co. ..... 6, 77, Facing 89
*Hochstadter Laboratories 121
R. M. Hollingshead Corp. 122
*Hooker Electrochemical Co. ..... April
*Houchin Machinery Co. 60
Huber Machine Co. 118
*Hysan Products Co. 9

Industrial Chemical Sales Division
W. Va. Pulp & Paper Co. 56
*Innis-Speiden & Co. 52
Interstate Color Co. 110

R. A. Jones & Co. 18

*Koppers Co. ..... Facing 88
Kranich Soap Co. 106

*Lancaster, Allwine & Rommel 121

*A. P. Lee Co. 121
*J. M. Lehmann Co. ..... April
*Geo. Lueders & Co. ..... April

*Magnus, Mabee & Reynard, Inc. 72
*N. I. Malmstrom & Co. 64
M & H Laboratories 102
Maryland Glass Corp. ..... April
Mirvale Chem. Co. 110
Monsanto Chemical Corp. ..... April

National Can Co. 74, 75
*Newman Tallow & Soap Machinery Co. 120
Newport Industries, Inc. ..... April
*Niagara Alkali Co. ..... Facing 38
Norda Essential Oil & Chemical Co. 10

*Orbis Products Co. ..... April
Owens-Illinois Glass Co. 76

Pecks Products Co. 118
*S. B. Penick & Co. 73
*Pennsylvania Refining Co. ..... April
Petroleum Specialties, Inc. ..... April
Philadelphia Quartz Co. 42
Philipp Brothers, Inc. 112
*Pittsburgh Coal Carbonization Co. ..... April
*Pittsburgh Plate Glass Co. ..... April
*John Powell & Co. 71
*R. J. Prentiss & Co. 82
*Proctor & Schwartz, Inc. 68
Pumice Corp. of America 54
*Pylam Products Co. 112

Chas. L. Read & Co., Inc. 116
*Reilly Tar & Chemical Co. 102
W. C. Ritchie & Co. 87
*Rohm & Haas Co. 100

*C. G. Sargent's Sons Corp. 48
*Schimmel & Co. 17
F. E. Schundler & Co., Inc. 52
Seil, Putt & Rusby 121
*Skinner & Sherman 121
Skotch Products Corp. 118
*Foster D. Snell 121
*Solvay Sales Corp. ..... 85, 3rd Cover
*L. Sonneborn Sons ..... April
Standard Silicate Co. ..... April
*Standard Synthetics, Inc. 83
Stillwell & Gladding 121

*Tar & Chem. Division Koppers Co. ..... Facing 88
Jos. Turner & Co. ..... April

*Uncle Sam Chemical Co. ..... April
Ungerer & Co. ..... Front Cover
*Union Carbide & Carbon Corp. 11
U. S. Industrial Chemicals, Inc. ..... Between 62-63

*Van Ameringen-Haebler, Inc. 4, 91
*Velsicol Corp. ..... Mar.

*T. F. Washburn Co. 104
*Welch, Holme & Clark Co. 50
*White Tar Co. of N. J. ..... Facing 88
Whittaker, Clark & Daniels 54
*Woburn Degreasing Co. 50
G. H. Wood & Co. 124
*Wurster & Sanger, Inc. 121
Wyandotte Chemicals Corp. 14

York Chemical Co. 112

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.

"While ah watches you dig, Cuthbert, ah can almost taste dem big luscious watermelons dat we'll git next summer!"

. . . plant now!

NOW is not only the time to plant a Victory Garden that will yield crops in the summer and fall. It is also a good time to plant some Victory Advertising seeds that will yield crops after the war,—crops of customers and orders when the lush days are over and when an order will be welcome and not just a nuisance.

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254 WEST 31st STREET NEW YORK

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Tale Ends

QUESTION of the month . . . Where can we buy a car or two of fatty acids? From one who knows, comes the information that the current demand for fatty acids is at the rate of two billion pounds per annum, —and the supply, a half-billion pounds. Not too encouraging a situation for those soapers who find their fat supplies approaching the vanishing point.

* * *

But don't soapers have quotas? Sure thing, Mr. Bones, soapers have quotas, but what good is a soaper's quota if the soaper can't find anybody who will sell him something resembling a fat, oil, or fatty acid? There is no law yet to make a seller sell if he doesn't want to sell,—or,—and here's the rub,—can get a better *ceiling* price elsewhere.

* * *

If those soapers who express their views are correct, the present fat and oil supply situation is gummed up about as completely as possible. They suggest that we ought to try all over again from scratch.

* * *

Those Washington rumors again . . . this time that the exports of soap, mostly to Russia, will far exceed any figure heretofore dreamed about . . . may go over a billion pounds this year. Zowie,—that's a lot of soap.

* * *

To C. E. Lascelles of Lever Brothers Co., Cambridge, goes the gold plated doughnut for making the prize remark of the month. It was a note to *Printers Ink*, one of the "Definitions That Deflate," and it was the definition of a coordinator,—and went as follows: "A coordinator is one who brings organized chaos out of regimented confusion."

* * *

Just a reminder . . . if you get a subscription renewal bill, send in your check promptly . . . don't miss any issues now . . . in the interest of paper conversation, the over-run of *Soap & Sanitary Chemicals* is held to a minimum these days and missed copies may not be available later.

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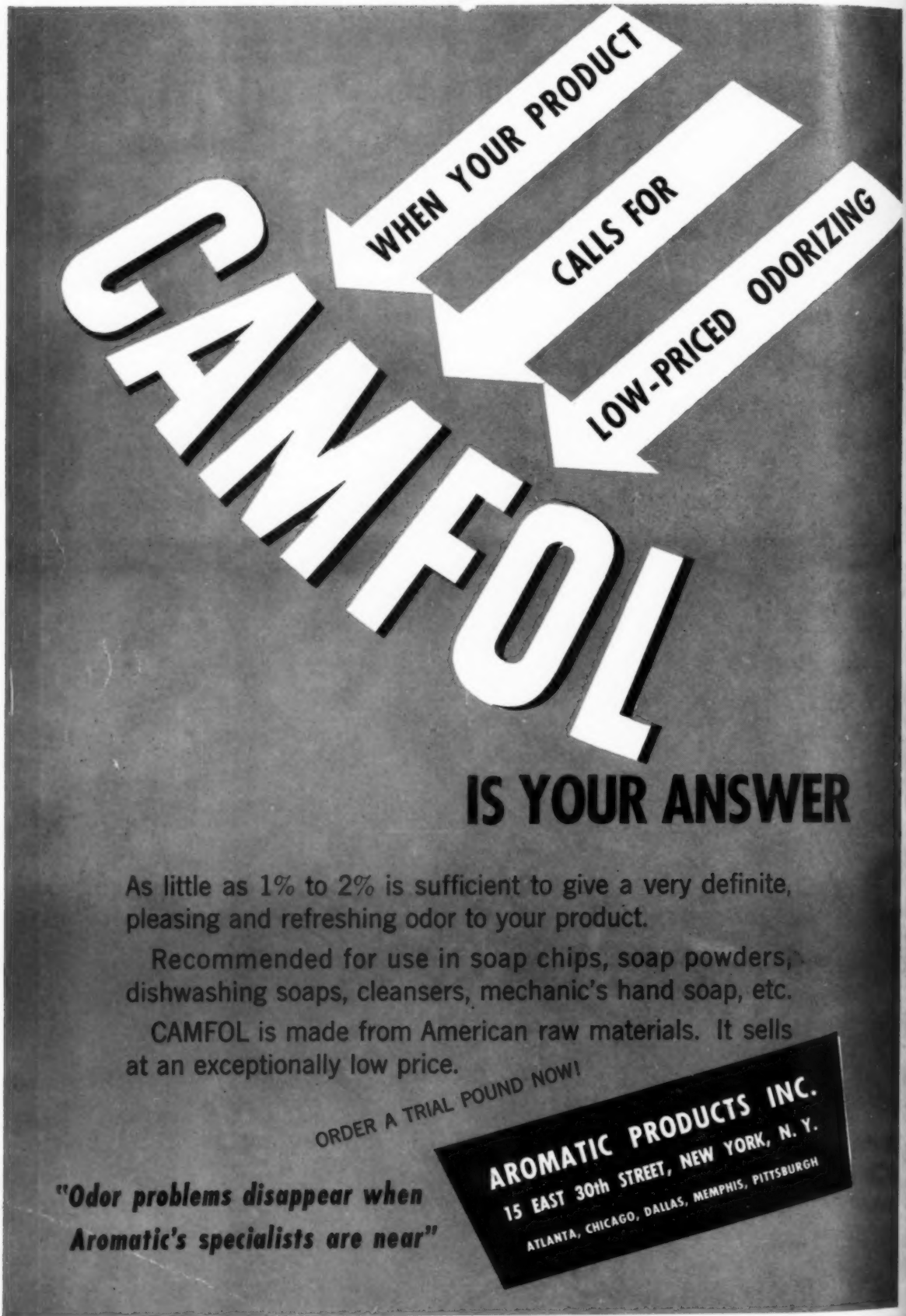
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